

BAB 6

KESIMPULAN DAN SARAN

6.1. Kesimpulan

Berdasarkan penelitian yang telah dilakukan telah didapatkan rancangan mesin penangkap sampah padat yang mengapung di aliran sungai yang sesuai dengan permintaan *customer*. Atribut produk yang digunakan dalam menentukan rancangan mesin ini adalah sebagai berikut:

a. Rancangan mesin sederhana

Harga mesin maksimal Rp.50.000.000,00.

b. Mesin dapat berfungsi optimal

Mesin dapat mengangkat sampah dengan baik dan mampu memisahkan sampah dengan ukuran panjang, lebar, tinggi maksimal 40 cm.

c. Mesin kuat dan tahan lama.

Konstruksi mesin diperhitungkan dengan baik sehingga dapat dipakai hingga jangka waktu 5 tahun ke depan.

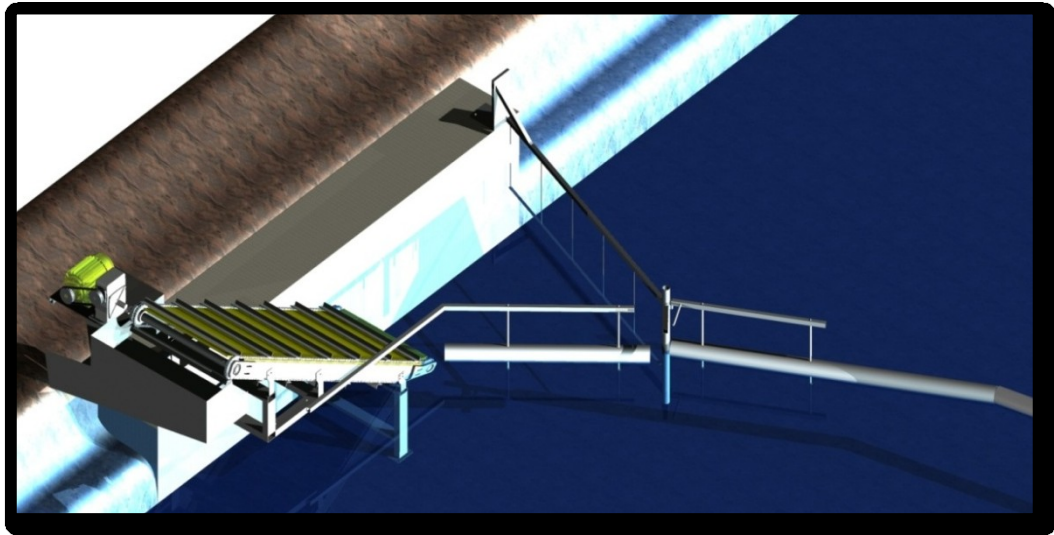
d. Mudah perawatan dan pengoperasian.

Perawatan dan pengoperasian dari mesin hanya membutuhkan 1-2 orang saja sehingga sifat mesin yang *semi-permanent* tidak merepotkan operator dalam pemasangan.

Rancangan mesin yang didapat dari penelitian ini memiliki spesifikasi seperti pada Tabel 6.1.

Tabel 6.1. Tabel Spesifikasi Mesin

Spesifikasi Mesin	
Dimensi Mesin	Panjang = 4102 mm
	Lebar = 3337 mm
	Tinggi = 2136 mm
Berat Mesin	225 kg
Kriteria Sampah yang Ditangkap	Sampah padat yang mengapung di aliran sungai dengan ukuran panjang, tinggi, dan lebar maksimal 40 cm
Pengangkat Sampah	Menggunakan <i>chain conveyor</i> yang dilengkapi dengan <i>attachment</i> , sehingga dapat mengoptimalkan conveyor dalam mengangkat sampah
Motor Penggerak	1 Phase / 220 VAC / 1,5 HP
Putaran Conveyor	28 rpm (<i>Speed reducer</i> 1 : 50)
Pemisah Sampah	Proses pemisahan sampah menggunakan pintu pegas yang akan membuka apabila terdapat sampah yang terlalu besar
Harga Mesin	Rp 29.414.397,45



Gambar 6.1. Mesin Penangkap Sampah

6.2. Saran

Mesin penangkap sampah ini sudah memenuhi tuntutan dan permintaan dari *customer*, namun mesin ini masih dapat disempurnakan lagi dengan menambahkan *crusher* pada pemisah sampah yang berfungsi untuk menghancurkan sampah sehingga ukuran sampah yang akan diangkat *conveyor* lebih seragam.

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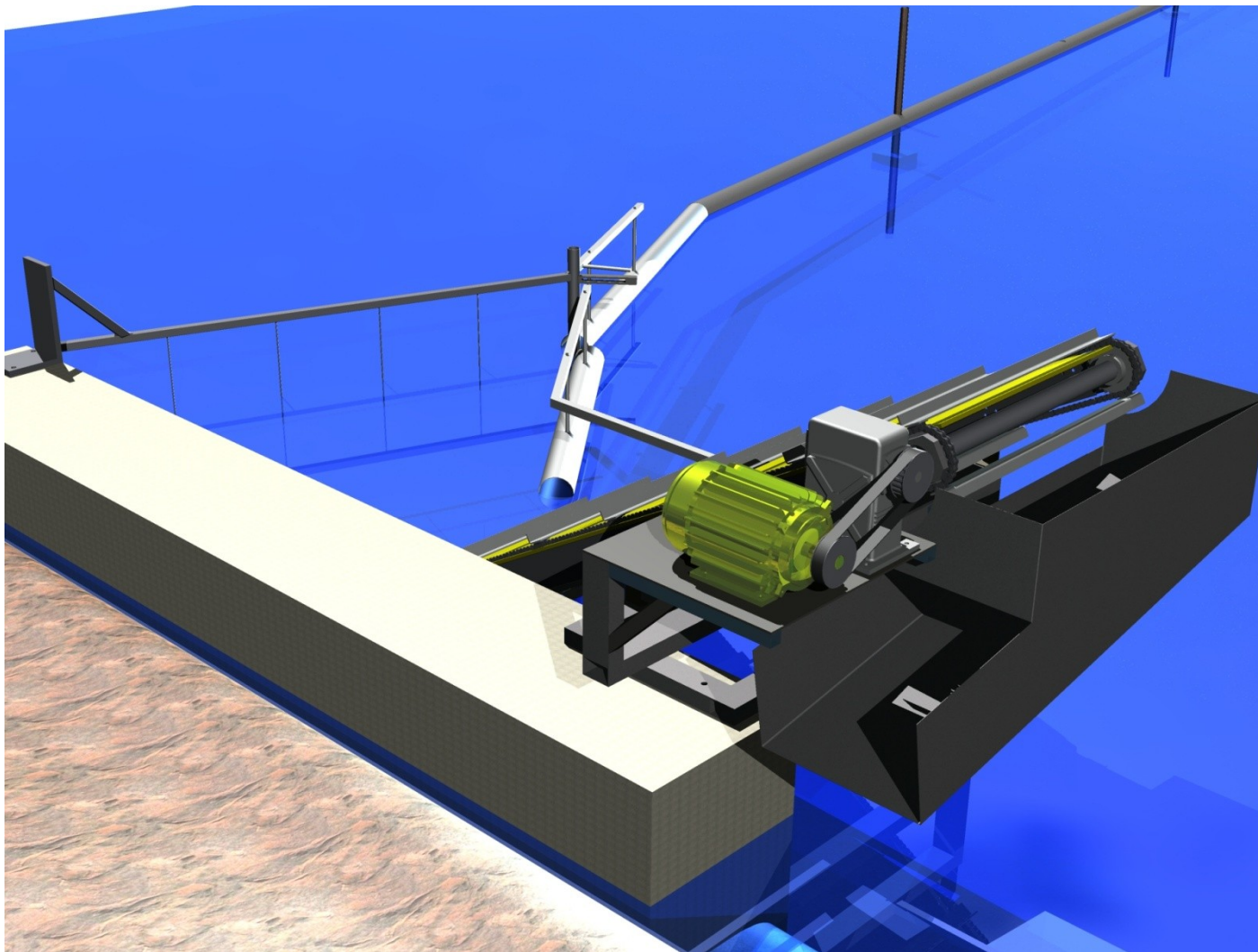
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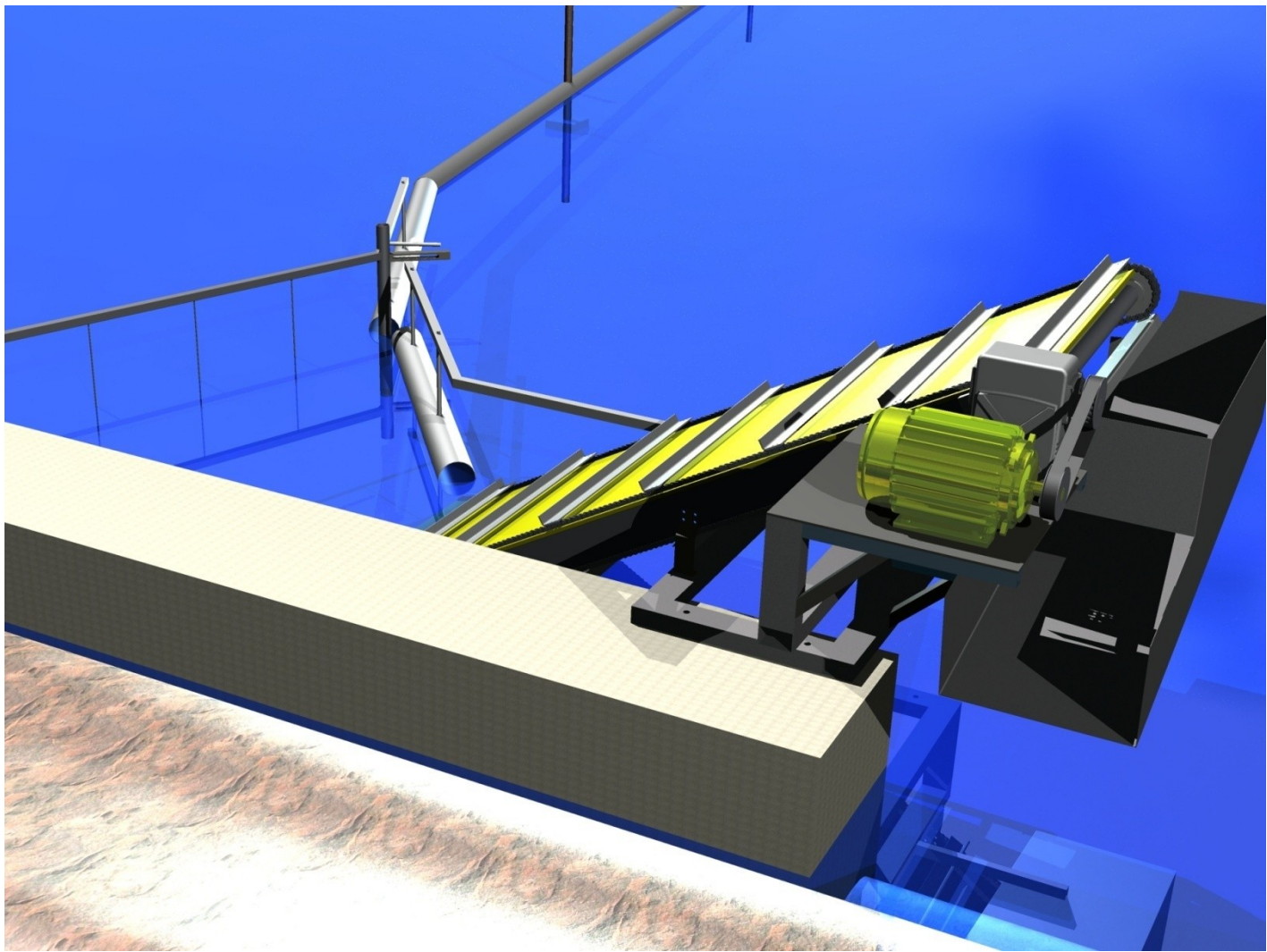
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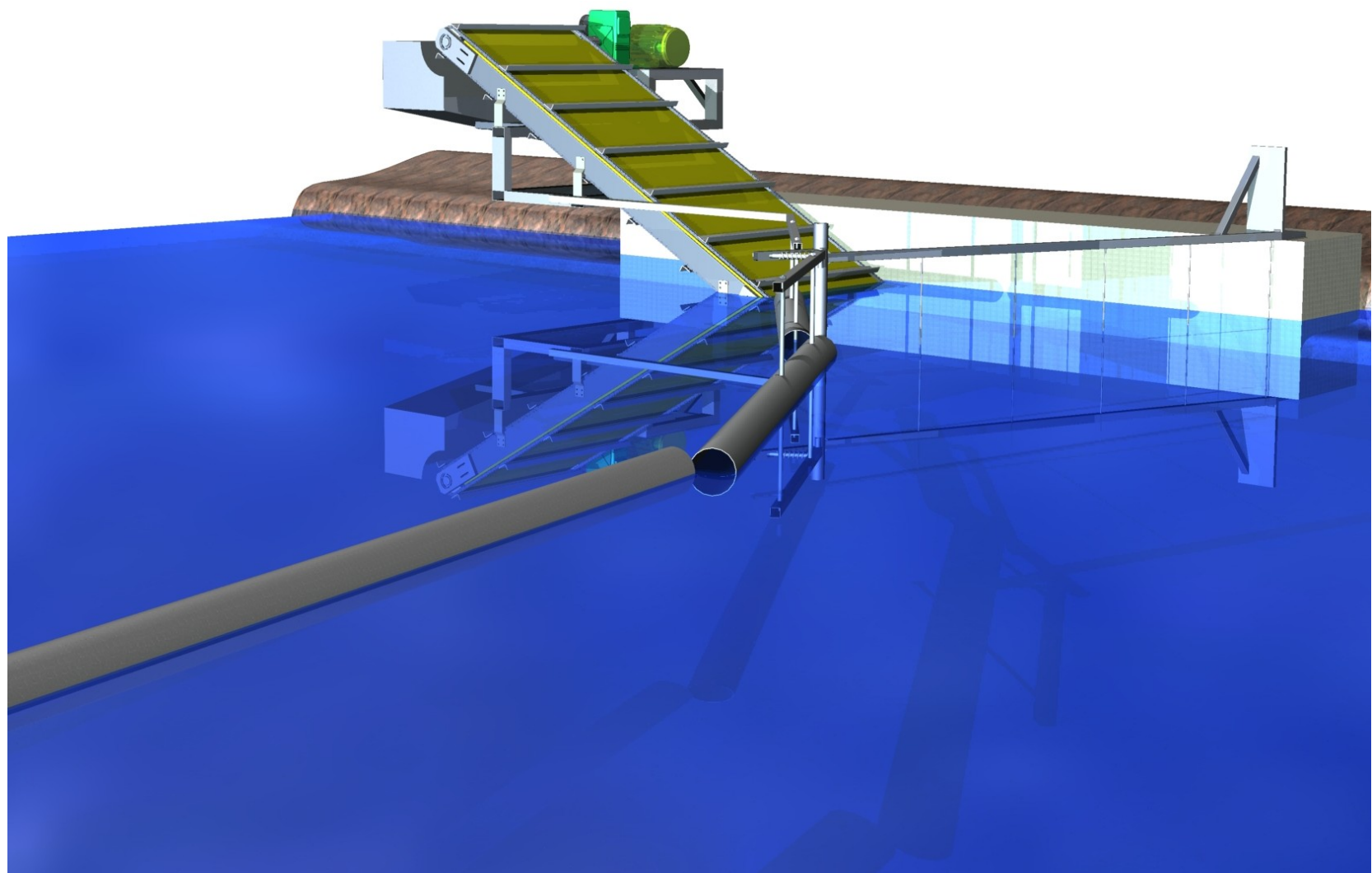


Lampiran 1
Gambar Mesin 3D



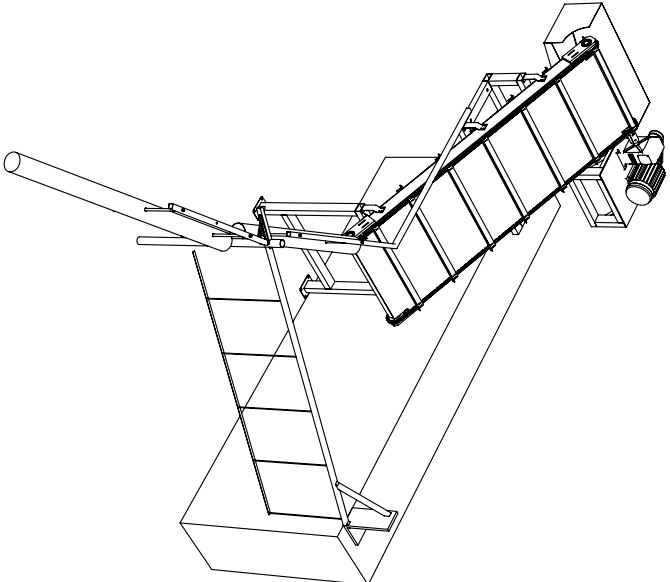
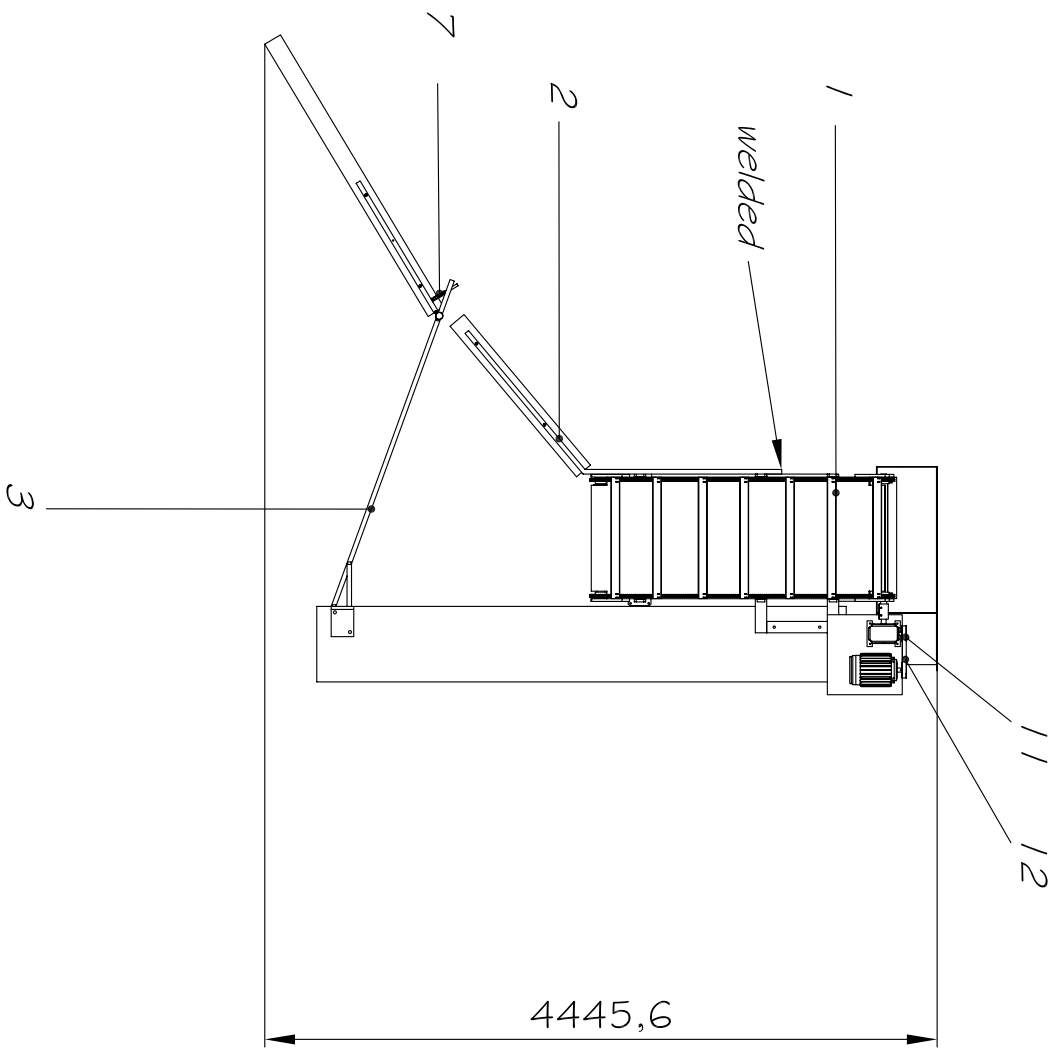
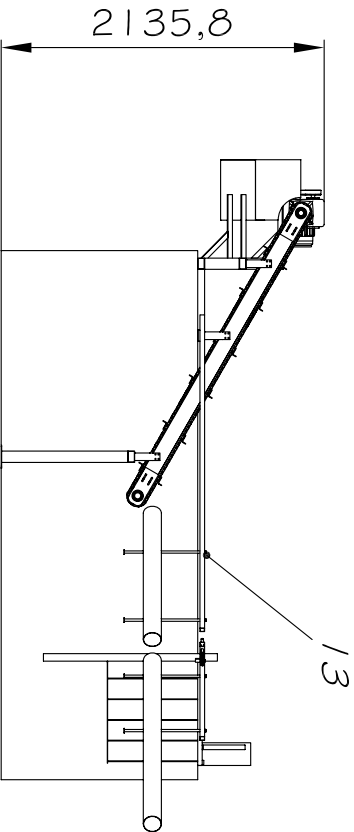
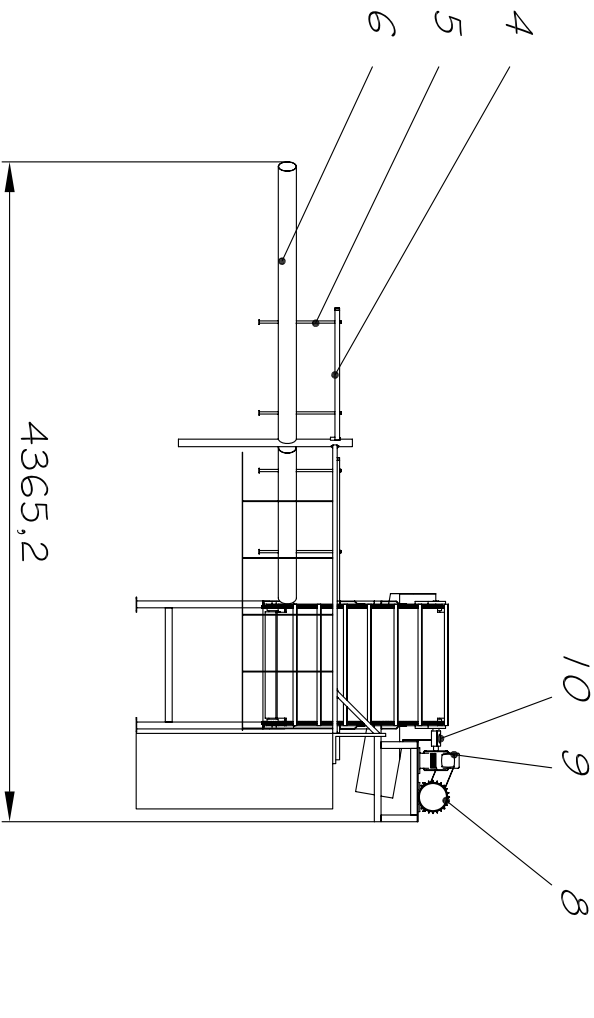




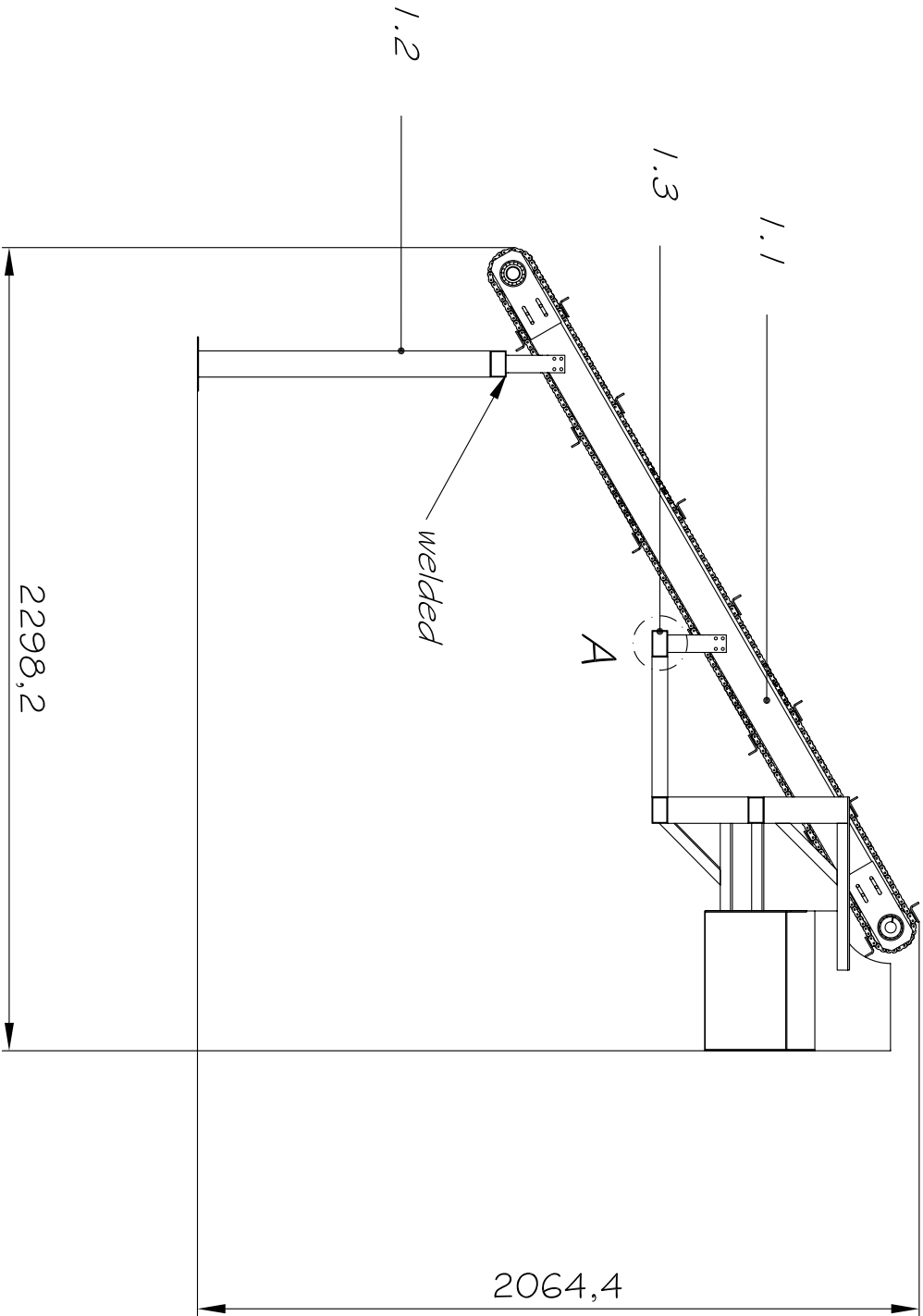
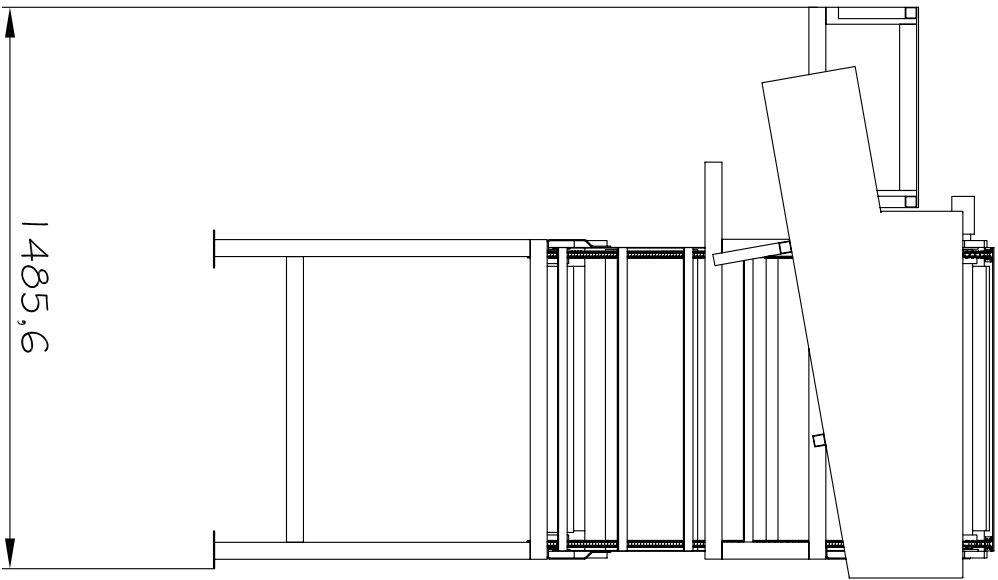


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Gambar Kerja 2D

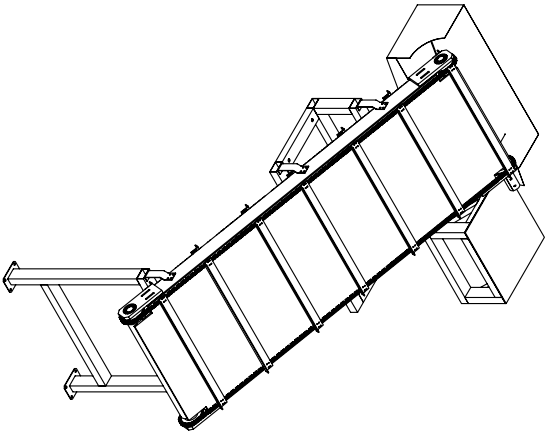
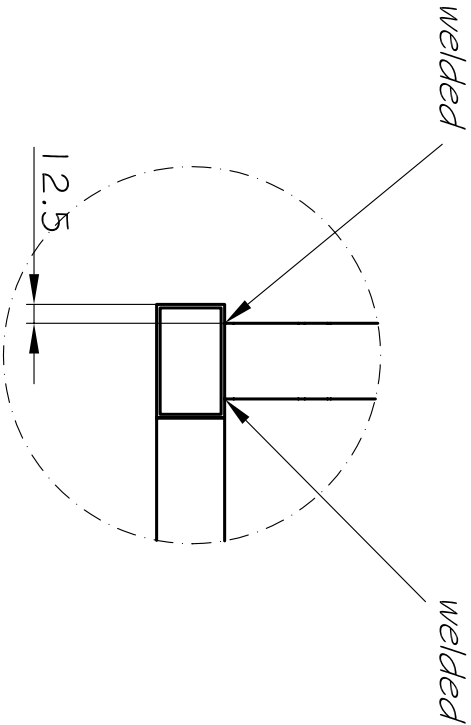






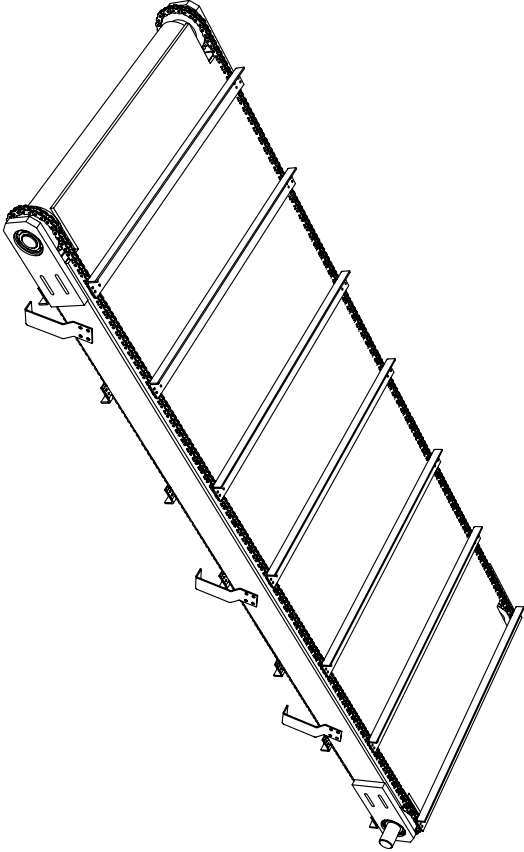
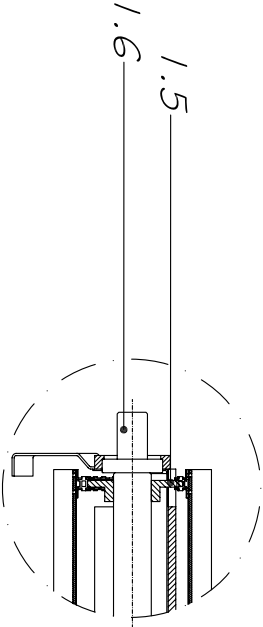
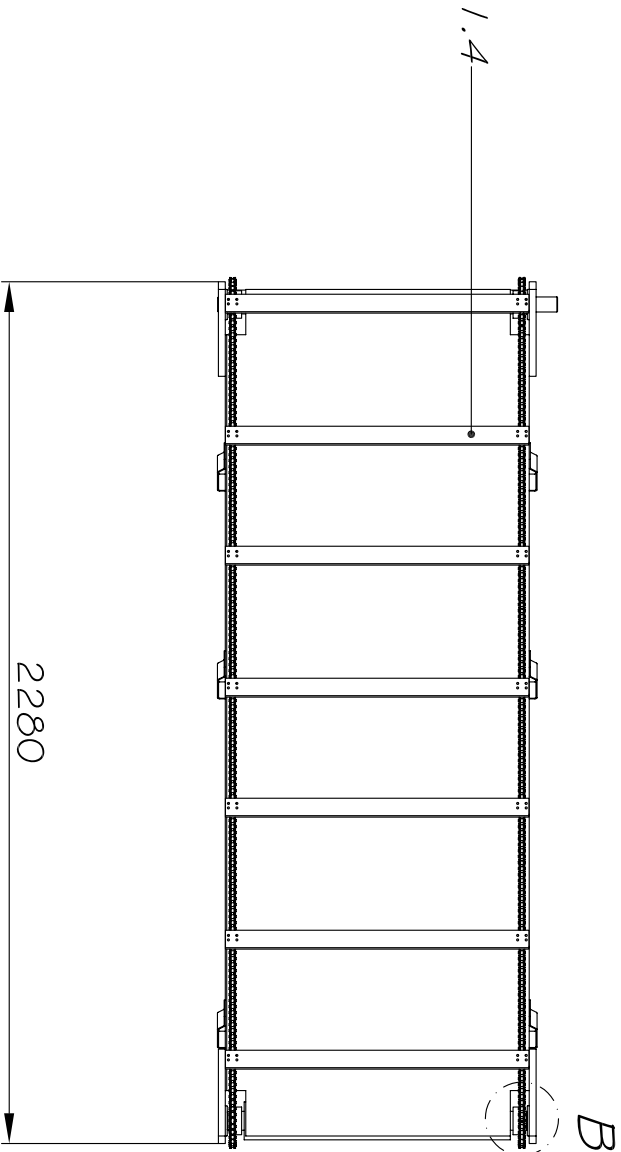
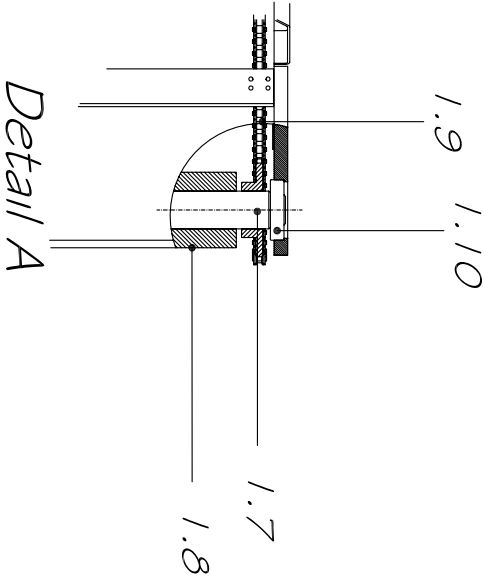
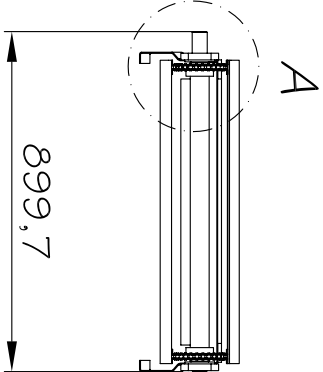
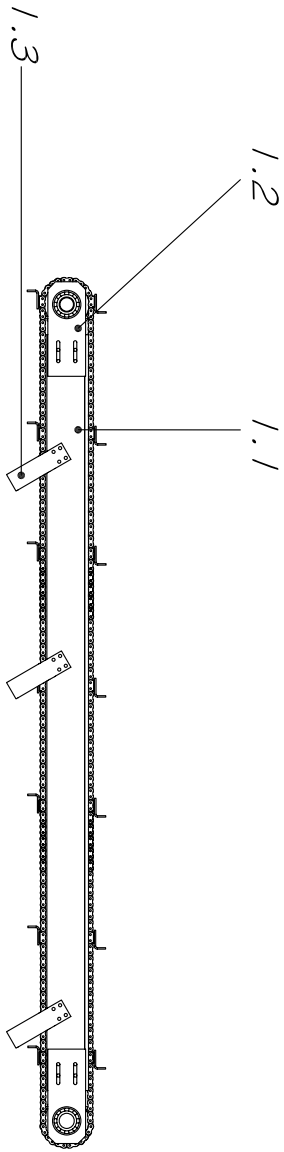
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Onqin.	Rep.		Rep. by.		SN. NS.



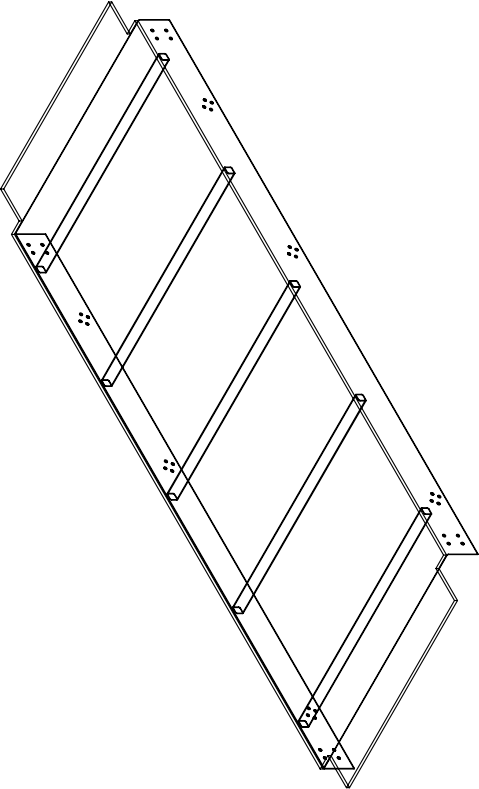
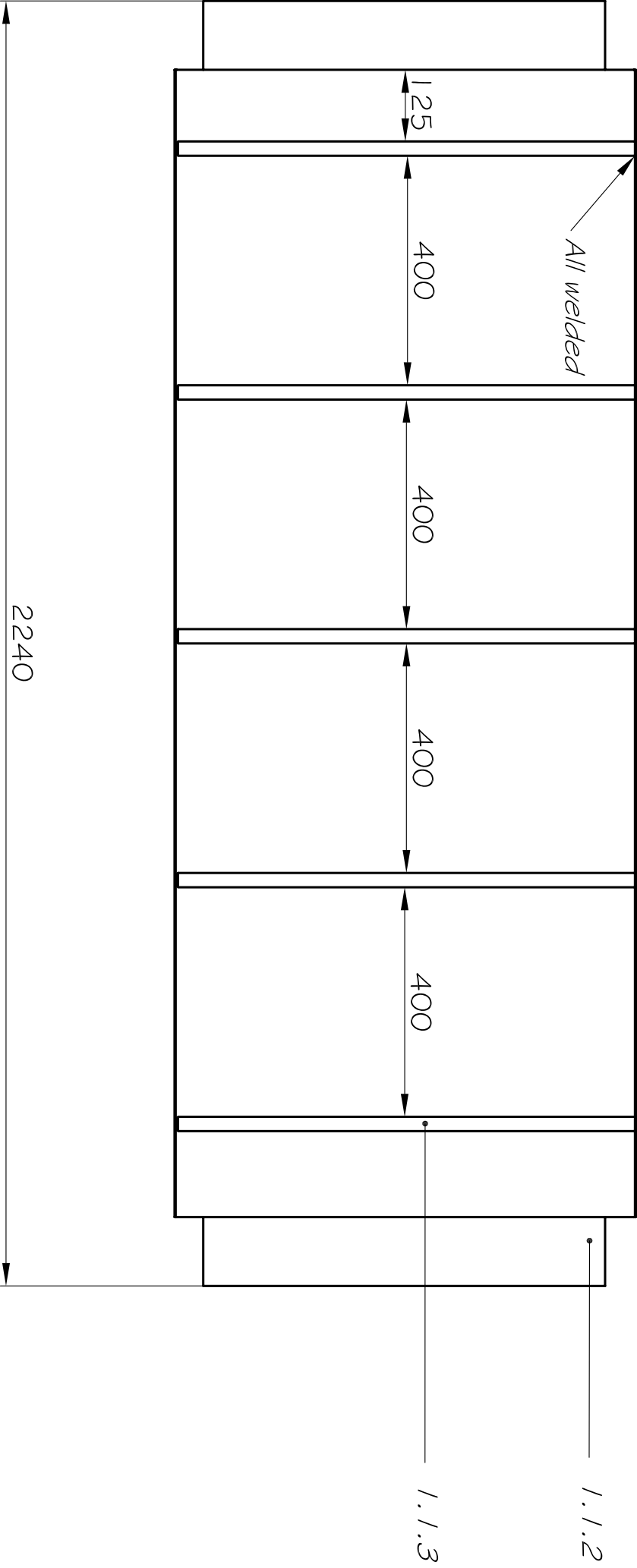
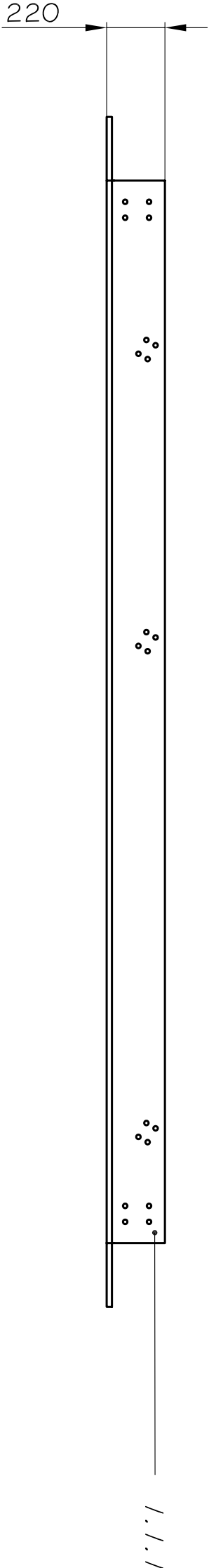
Detail A

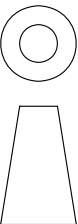


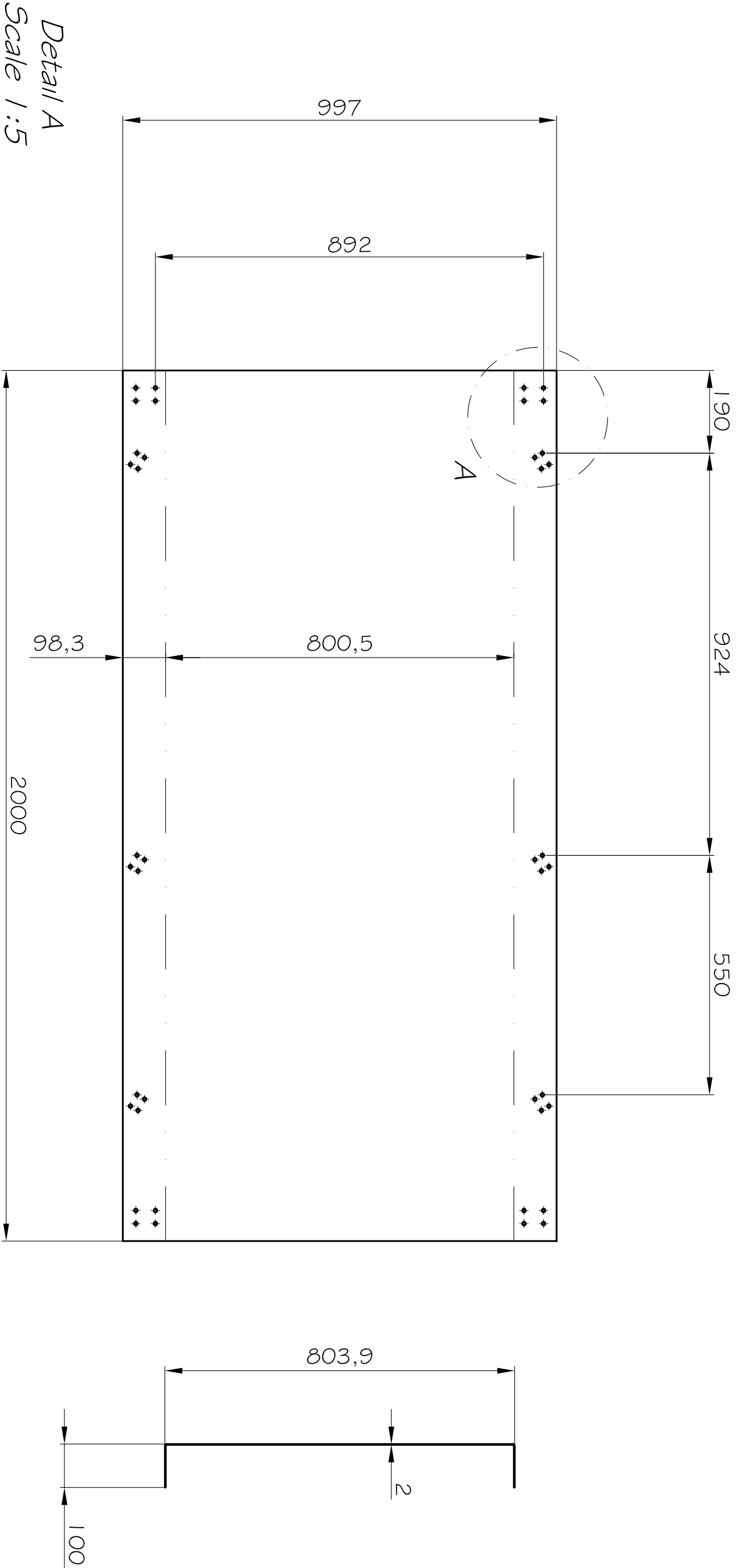
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1	Bottom frame	1.2			15
1	Chain conveyor	1.1			03
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		 		Operation	
		Orign.		Rep. by.	
				SN. NS.	
				02	



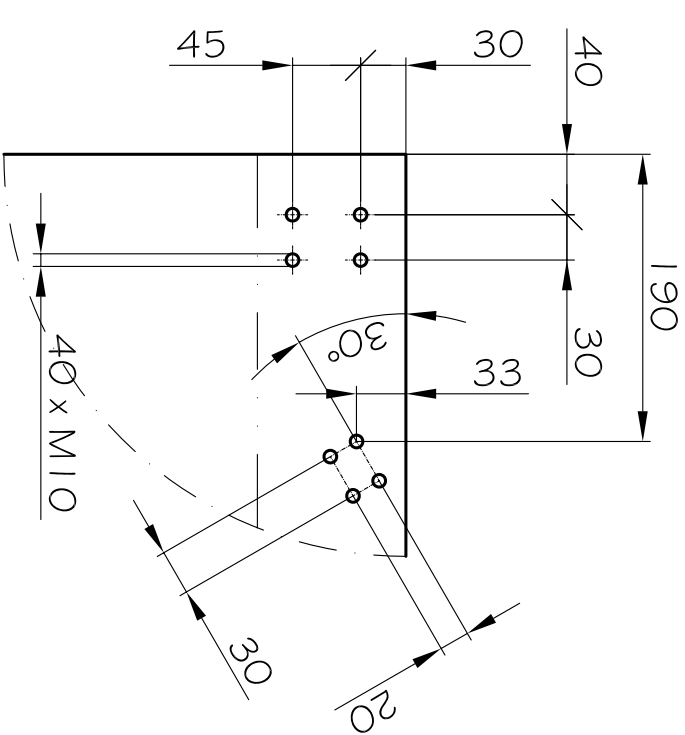
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Pieces	Description	Item	Material	Dimension	Remarks
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Onqin.	Rep.		Rep. by.		SN. NS.



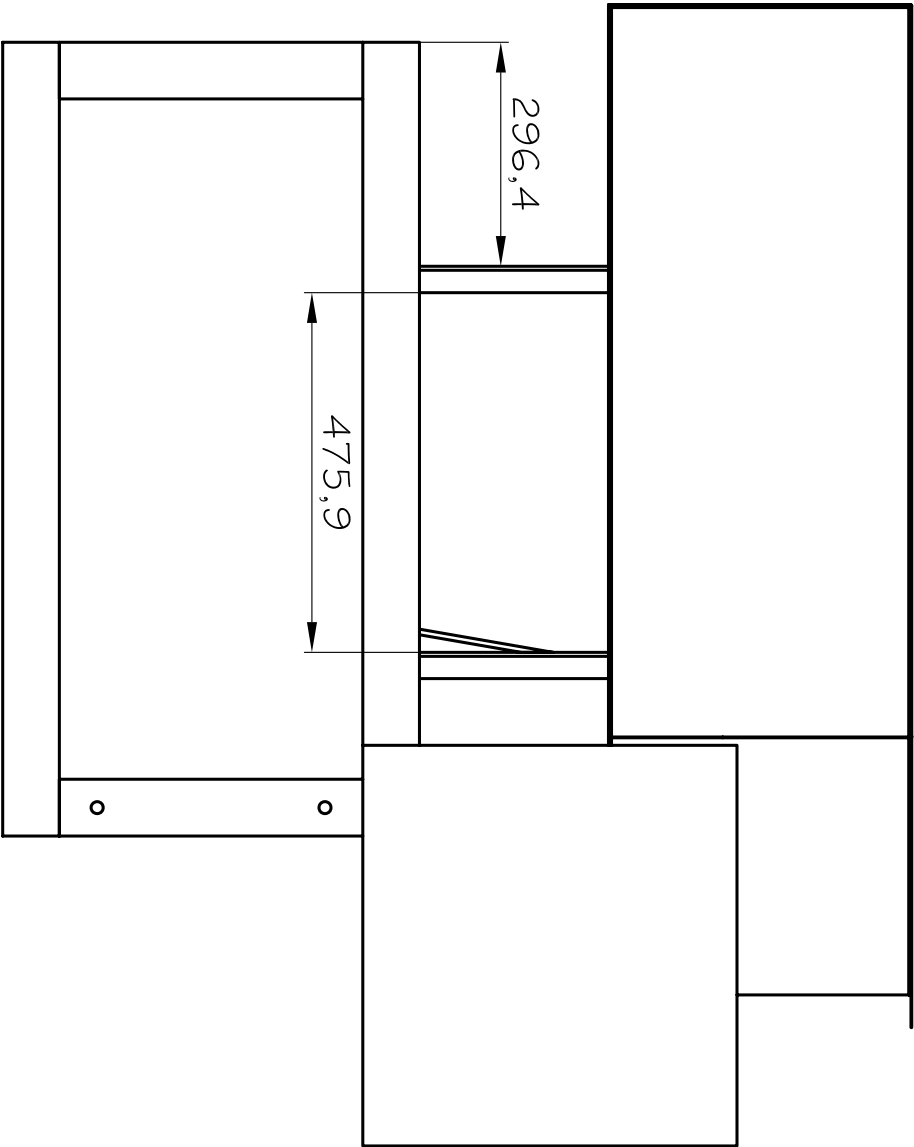
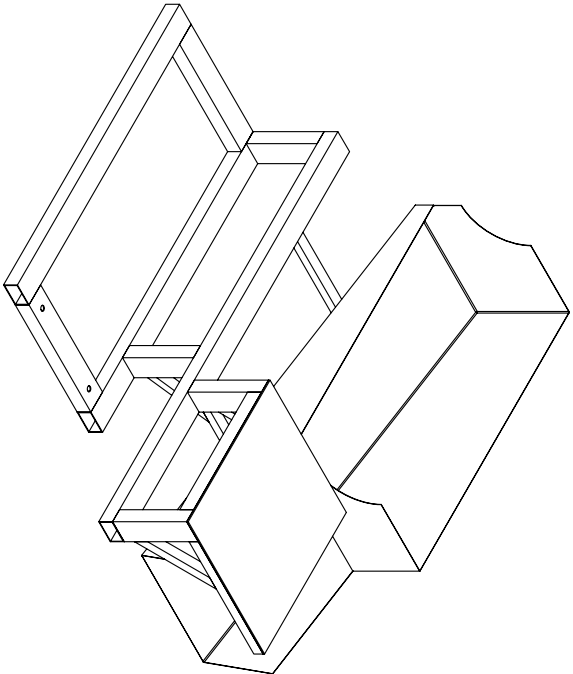
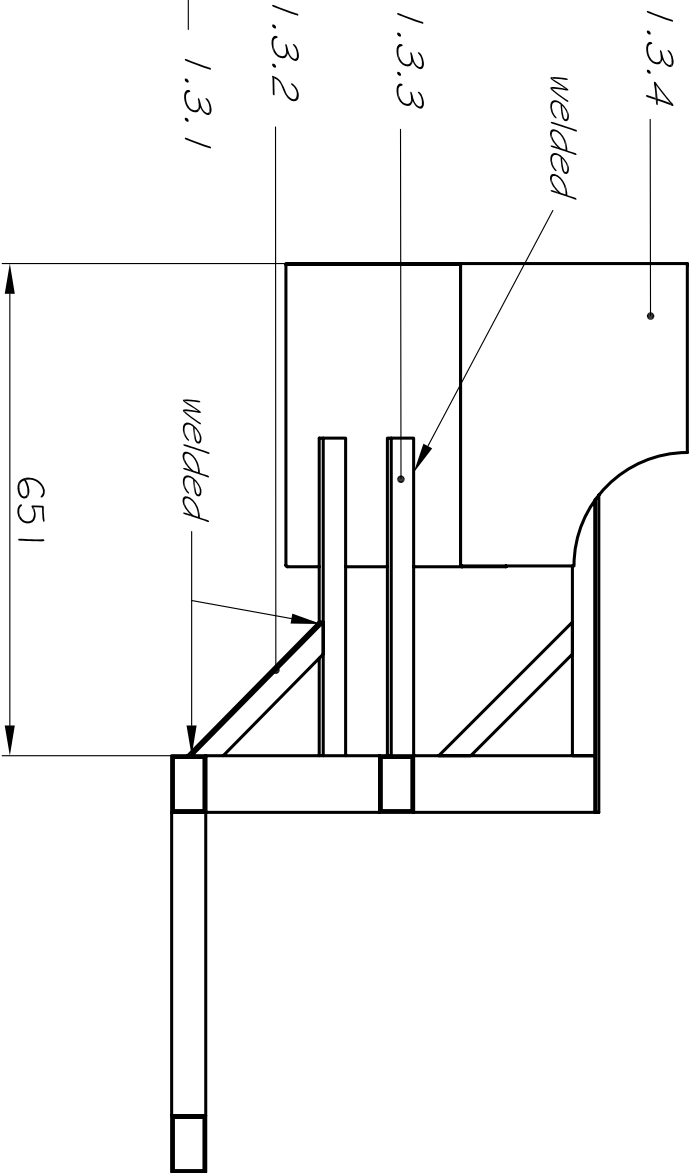
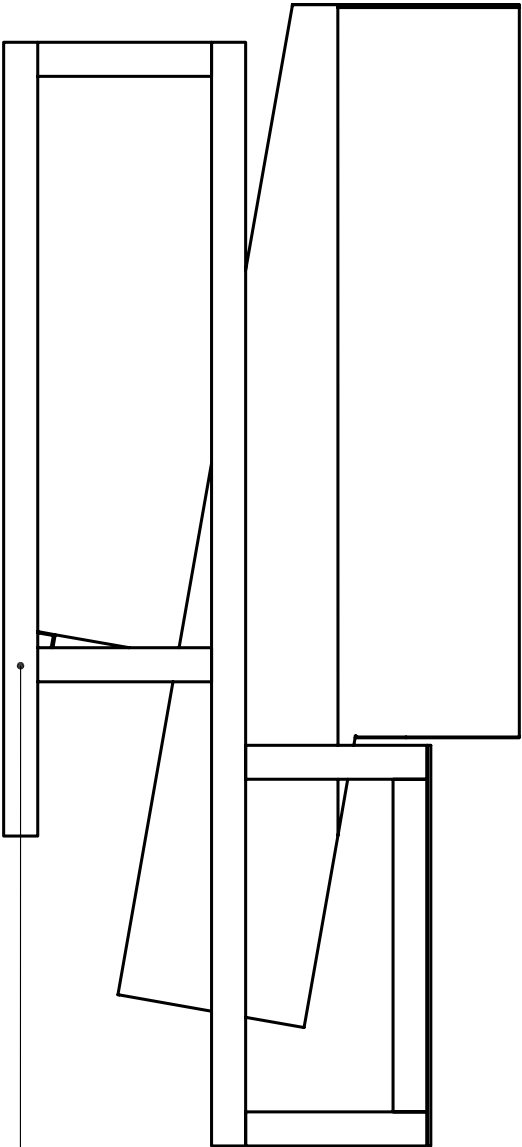
5	Reinforcement	1.1.3	Square pipe	30x30	07
1	Nylon Plate	1.1.2	Nylon	30x30	06
1	Konveyor Frame	1.1.1	St. sheet	t = 2	05
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index					
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Reg. Nr. : 111606742				Unit	: millimeter
Date : 25 06 13				Material	:
Checked by :				Sign.	:
A4		Frame Assy			
INDUSTRIAL ENGINEERING UAJY					Dwg. Nr.
		Operation			04
Orig.	Rep.	Rep. by.			SN. NS.



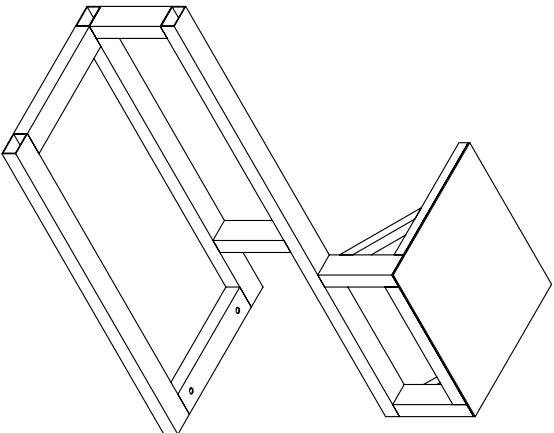
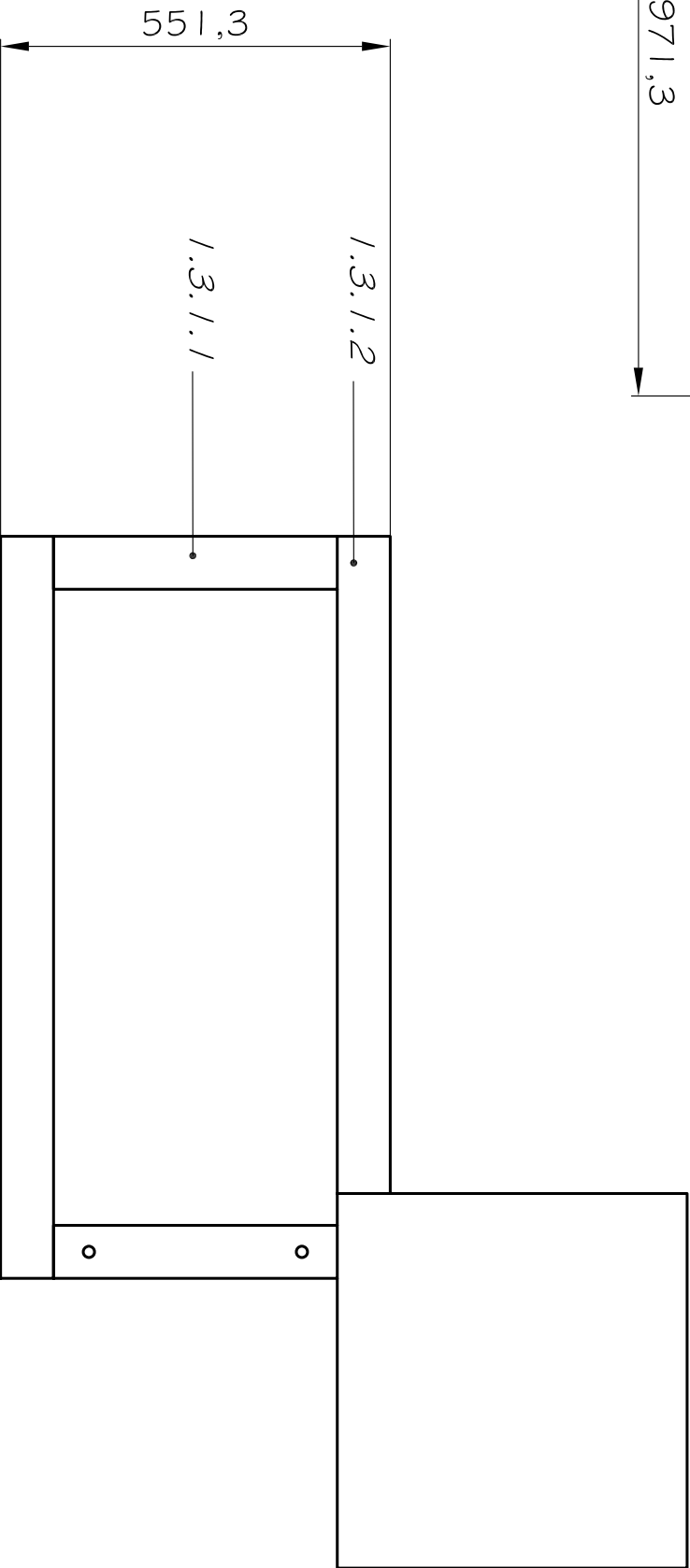
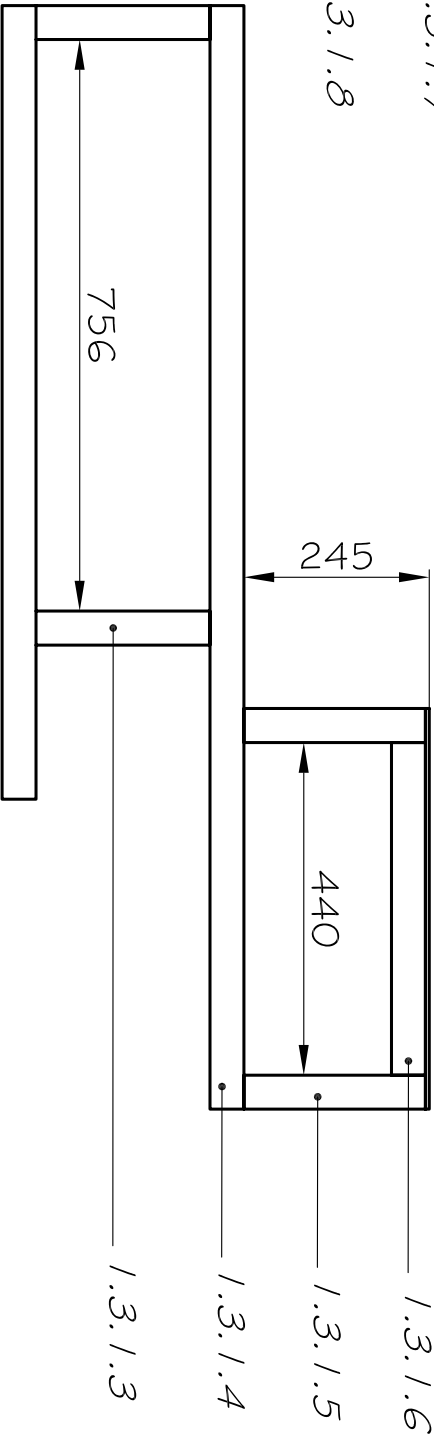
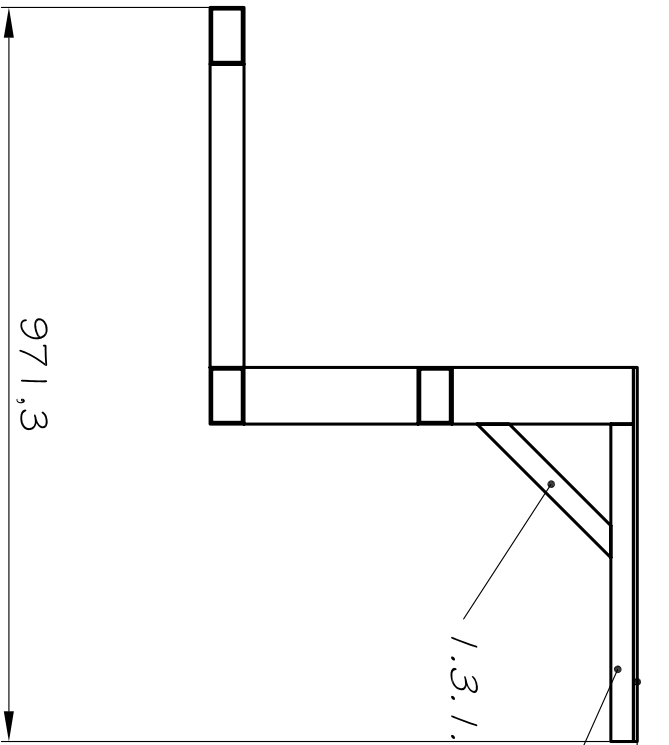
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Scale 1:5



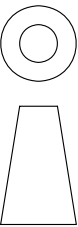
I	Konveyor Frame			I.1.1	St. Sheet	t = 2	
Pieces	Description	Item	Material	Dimension	Remarks		
Revision Index		Drawn by : Modestus SN			Scale : 1 : 10		
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		Date : 25 06 13			Material : St. St.		
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INDUSTRIAL ENGINEERING UAJY				Konveyor Frame			Dwg. Nr.
				Operation			05
Orig.		Rep.	Rep. by.			SN. NS.	

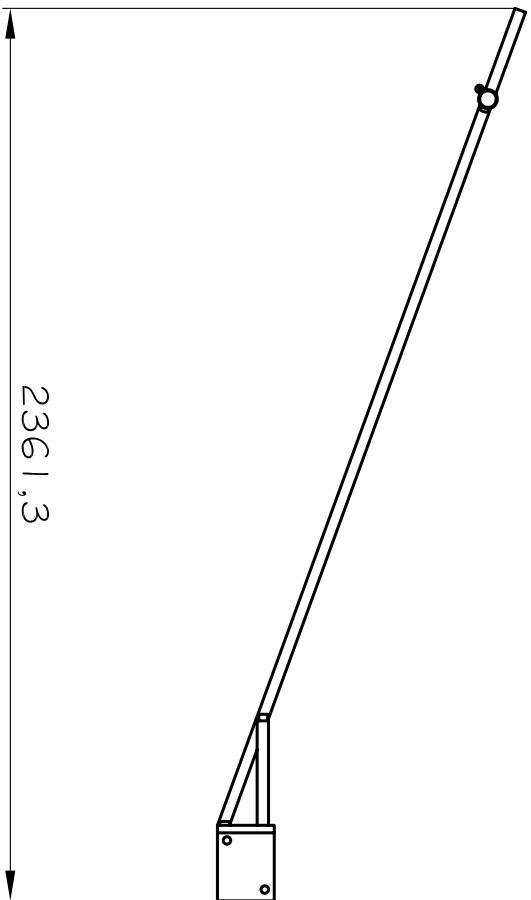
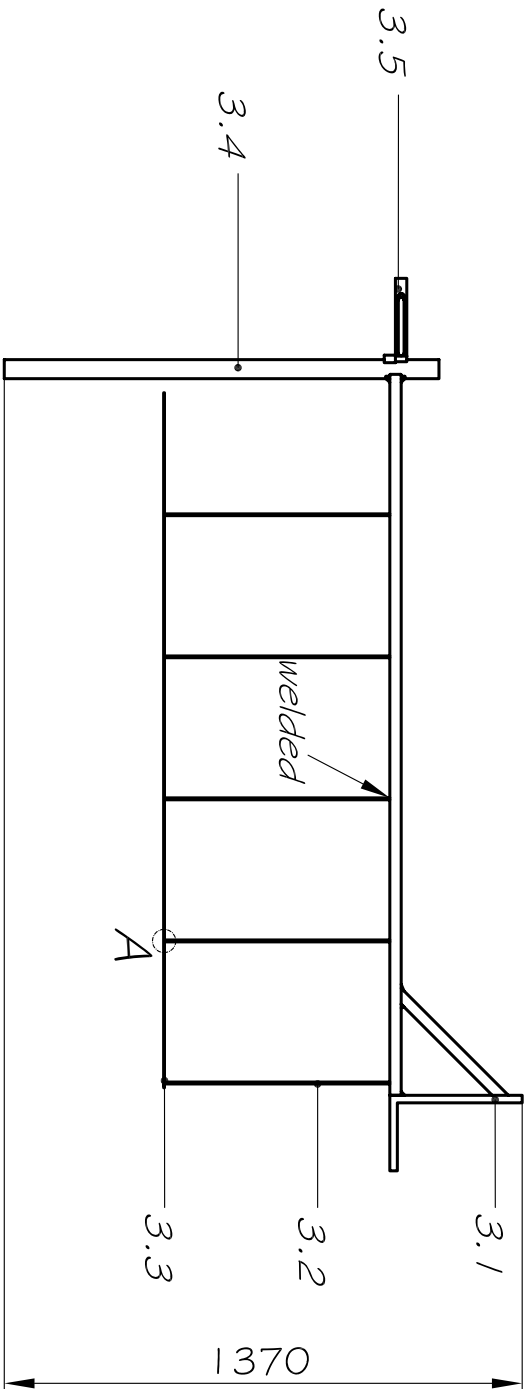


1	Receiver	1.3.4			22
2	Support 1	1.3.3	Square pipe	30x30	07
1	Support 2	1.3.2	Square pipe	30x30	20
1	Upper Leg	1.3.1	-	-	19
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index					
Drawn by : Modestus SN			Scale	: 1 : 10	
Reg. Nr. : 111606742			Unit	: millimeter	
Date : 25 06 13			Material	:	
Checked by :			Sign.	:	
A4		Upper Frame			
INDUSTRIAL ENGINEERING UAJY				Operation	Dwg. Nr.
					18
Origir.	Rep.	Rep. by.			SN. NS.

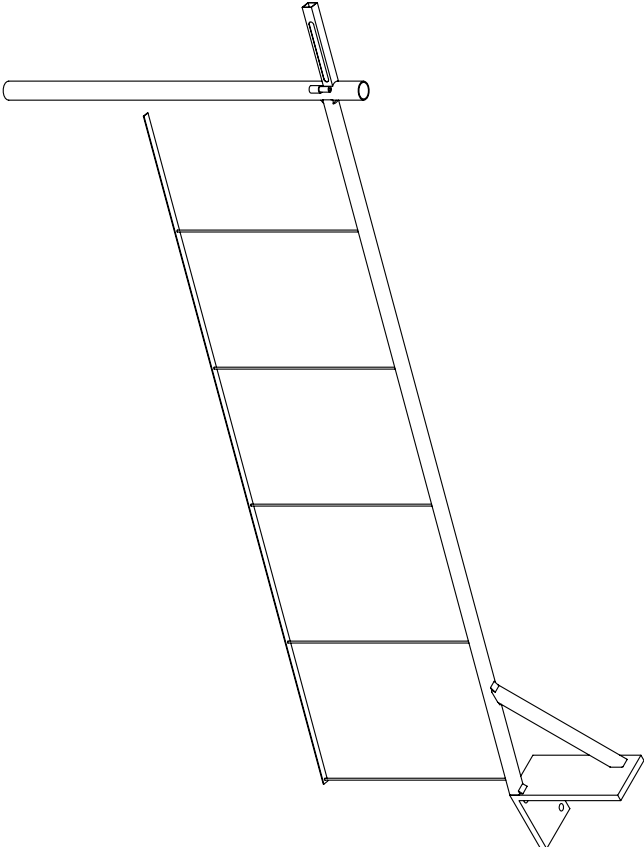
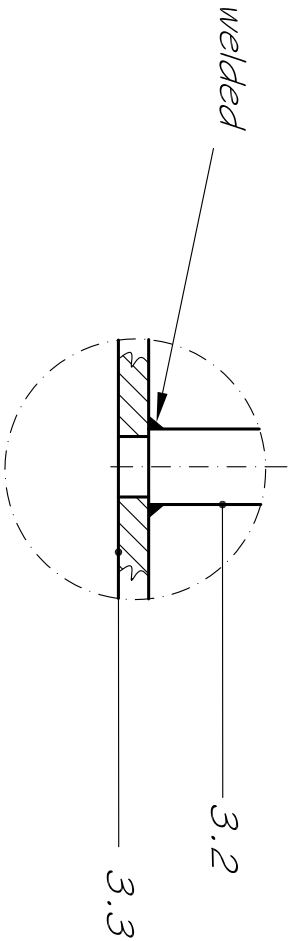


2	Support 2	1.3.1.9	Square pipe	30x30	20
2	Support 1	1.3.1.8	Square pipe	30x30	07
1	Base Plate	1.3.1.7	MS	t = 5	21
1	Leg	1.3.1.6	Rect. Tube	75x45	16
2	Leg	1.3.1.5	Rect. Tube	75x45	16

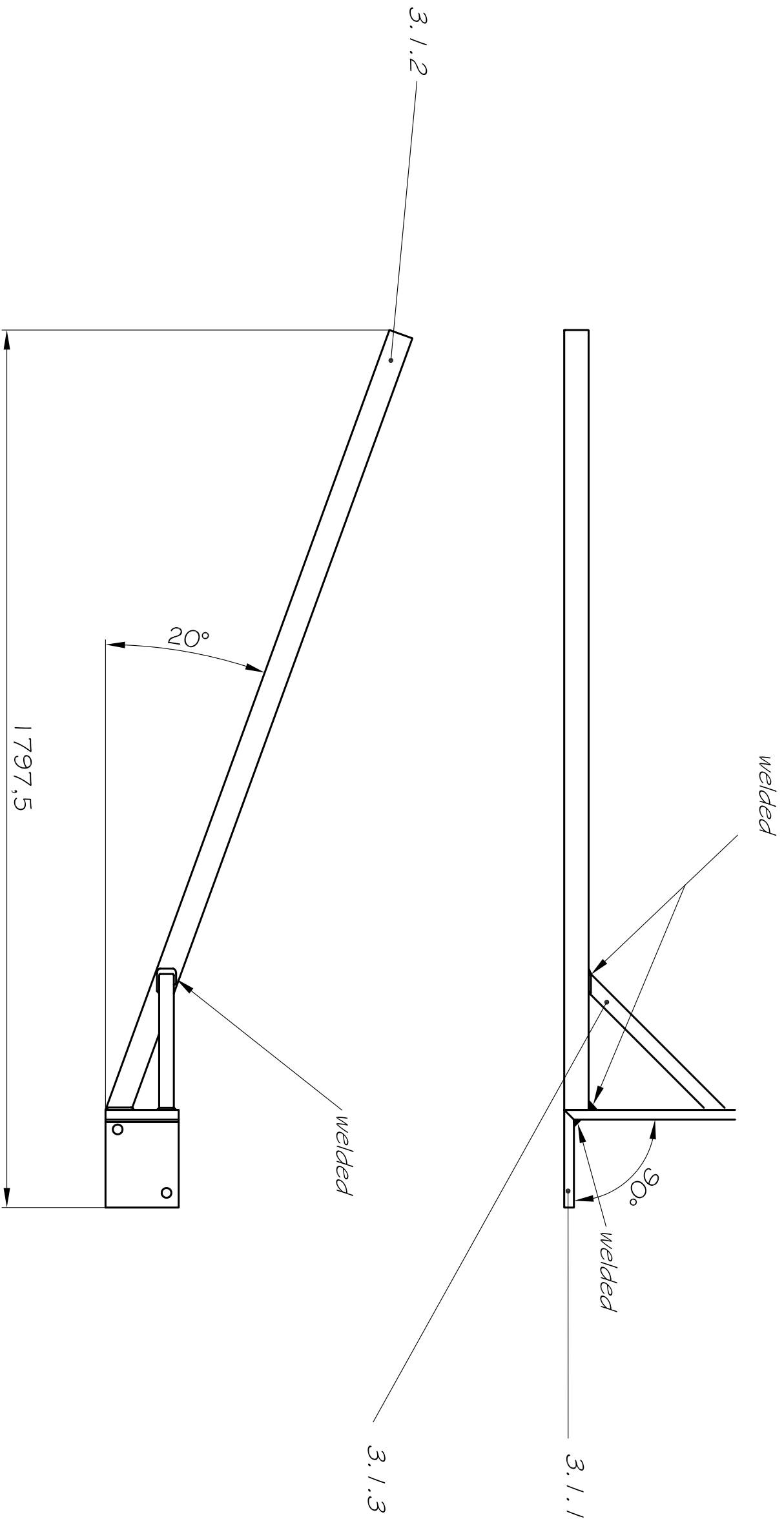
1	Leg	1.3.1.4	Rect. Tube	75x45	16
2	Leg	1.3.1.3	Rect. Tube	75x45	16
2	Leg	1.3.1.2	Rect. Tube	75x45	16
2	Leg	1.3.1.1	Rect. Tube	75x45	16
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN	Scale : 1 : 10		
		Reg. Nr. : 111606742	Unit : millimeter		
		Date : 25 06 13	Material :		
		Checked by :	Sign. :		
A4		Upper Leg			
INDUSTRIAL ENGINEERING UAJY		Operation	Dwg. Nr.		
Orign.	Rep.		Rep. by.	SN.	NS.
			19		



Detail A
Scale 2:1



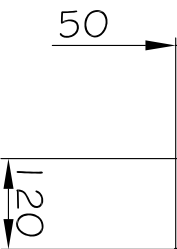
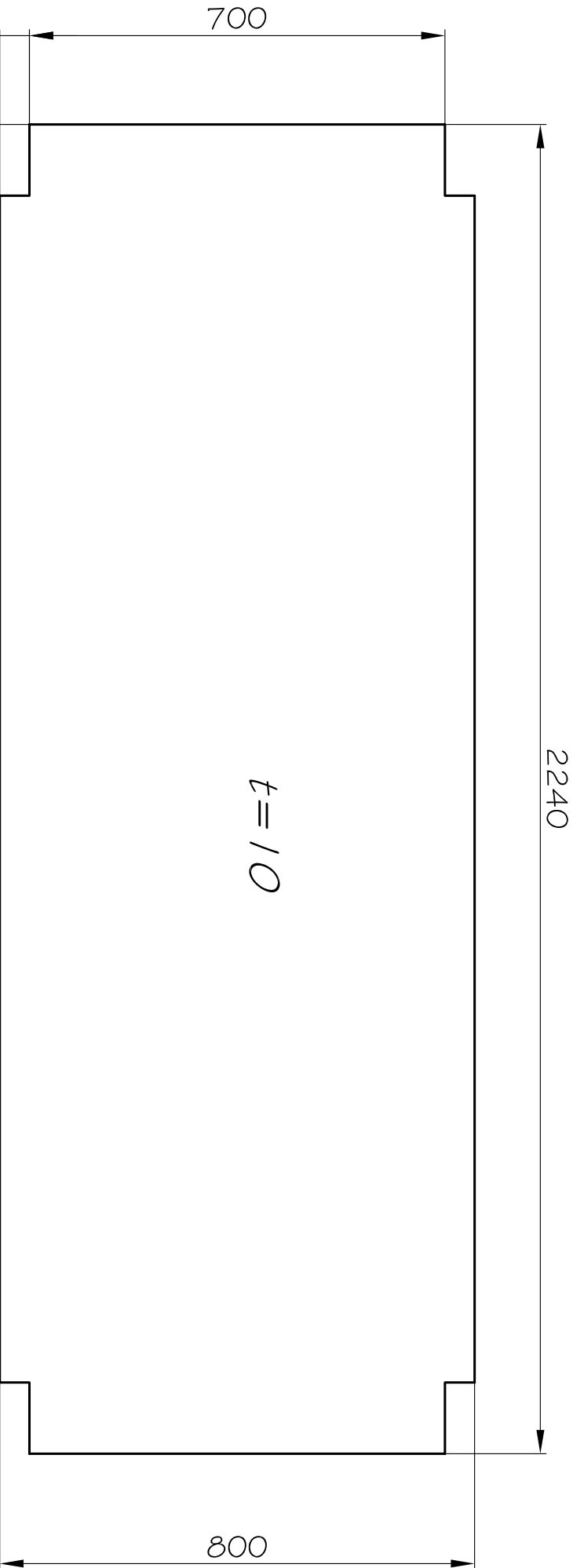
1	Square tube	3.5	Square pipe	30x30	37
1	Holder Pipe	3.4	-	-	34
1	Ram Support	3.3	St. sheet	t = 4	33
5	Shaft Ram	3.2	St. St.	Ø5	32
1	Holder Assy	3.1			29
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index					
		Drawn by : Modestus SN		Scale : 1 : 20	
		Reg. Nr. : 111606742		Unit : millimeter	
		Date : 25 06 13		Material :	
		Checked by :		Sign. :	
INDUSTRIAL ENGINEERING UAJY		A4		Divider Holder Assy	
		Operation		Dwg. Nr.	
		28		SN. NS.	
Orig.	Rep.	Rep. by.		SN. NS.	

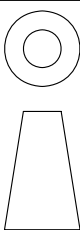


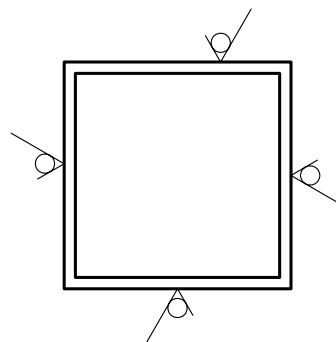
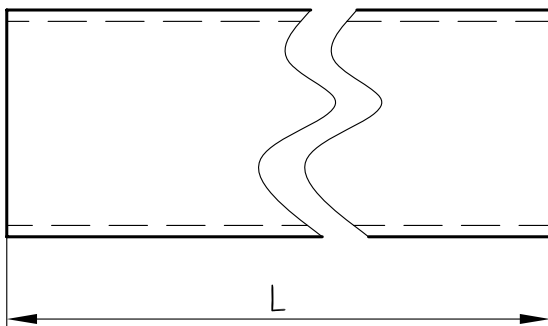
1	Reinforcement	3.1.3	Square pipe	30x30	20
1	Holder	3.1.2	Square pipe	30x30	31
1	L Profile	3.1.1			30
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index					
		Drawn by : Modestus SN		Scale	: 1 : 10
		Reg. Nr. : 111606742		Unit	: millimeter
		Date : 25 06 13		Material	:
		Checked by :		Sign.	:
INDUSTRIAL ENGINEERING UATY		Holder Assy			
		Operation			Dwg. Nr.
					29
Orig.	Rep.	Rep. by.			SN. NS.

10	Hexagonal Bolt	14			Purchased
10	Hexagonal Nut	13			Purchased
1	Timming Belt	12			Purchased
2	Timming pulley	11			Purchased
1	Coupling	10	MS		-
1	Speed reducer 1: 50	9		WPA 70	Purchased
1	Motor Listrik 1,5 HP	8			Purchased
1	Spring	7	LCM200KK 05		42
2	Pelampung	6	PVC Pipe	Ø5"	Purchased
2	Shaft Ram	5	St. St.	Ø5	32
1	Divider Door	4			38
1	Divider Holder Assy	3			28
1	Fixed Arm for Guider	2			25
1	Conveyor with Frame	1			02
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN			Scale : -
		Reg. Nr. : 111606742			Unit : millimeter
		Date : 25 06 13			Material :
		Checked by :			Sign. :
		A4	Part List		
INDUSTRIAL ENGINEERING UAJY			Operation	Dwg. Nr. 01	
Origin.	Rep.		Rep. by.	SN. NS.	


10	Hexagonal Nut	1.13			Purchased
10	Hexagonal Bolt	1.12			Purchased
4	Seeger ring	1.11			Purchased
4	Bearing 6208 2Z	1.10			Purchased
1	Chain R550	1.9			Purchased
1	Roller	1.8	St. St.		14
1	Bottom Shaft	1.7	St. St.		13
1	Transmission Shaft	1.6	MS		12
4	Sprocket R550 z25	1.5			11
14	Guider	1.4	St. St.	t = 4	10
6	Foot Support	1.3	St. St.	t = 4	09
4	Flange	1.2	St. St.		08
1	Frame Assy	1.1			04
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN			Scale : -
		Reg. Nr. : 111606742			Unit : milimeter
		Date : 25 06 13			Material :
		Checked by :			Sign. :
		A4	Chain Conveyor Part List		
INDUSTRIAL ENGINEERING UAJY			Operation	Dwg. Nr. 03	
Origin.		Rep.		Rep. by.	SN. NS.

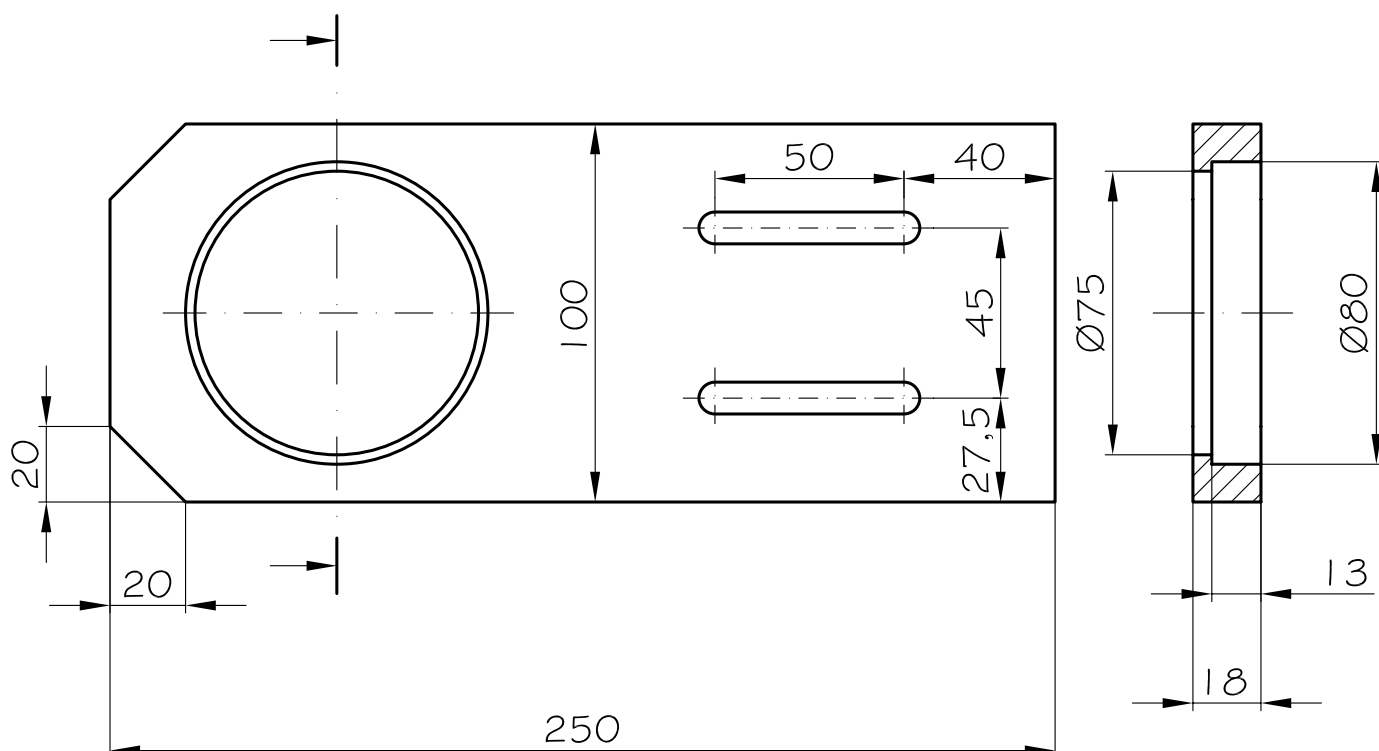


/	Nylon Plate			1.1.2	Nylon			
Pieces	Description		Item	Material	Dimension	Remarks		
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			Reg. Nr. : 111606742		Unit	: millimeter		
			Date : 25 06 13		Material	: Nylon		
			Checked by :		Sign.	:		
INDUSTRIAL ENGINEERING UAJY			A4	Nylon Plate				
							Operation	Dwg. Nr.
								06
Origin.	Rep.				Rep. by.	SN.	NS.	

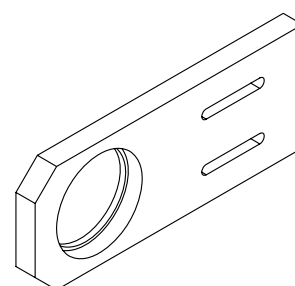


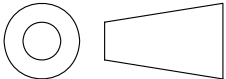
<i>Qty</i>	<i>Item</i>	<i>Description</i>	<i>L</i>	<i>Assy</i>
5	1.1.3	reinforcement	800	3-04
2	1.3.1.8	Support 1	420	3-19
2	1.3.3	Support 1	420	3-18

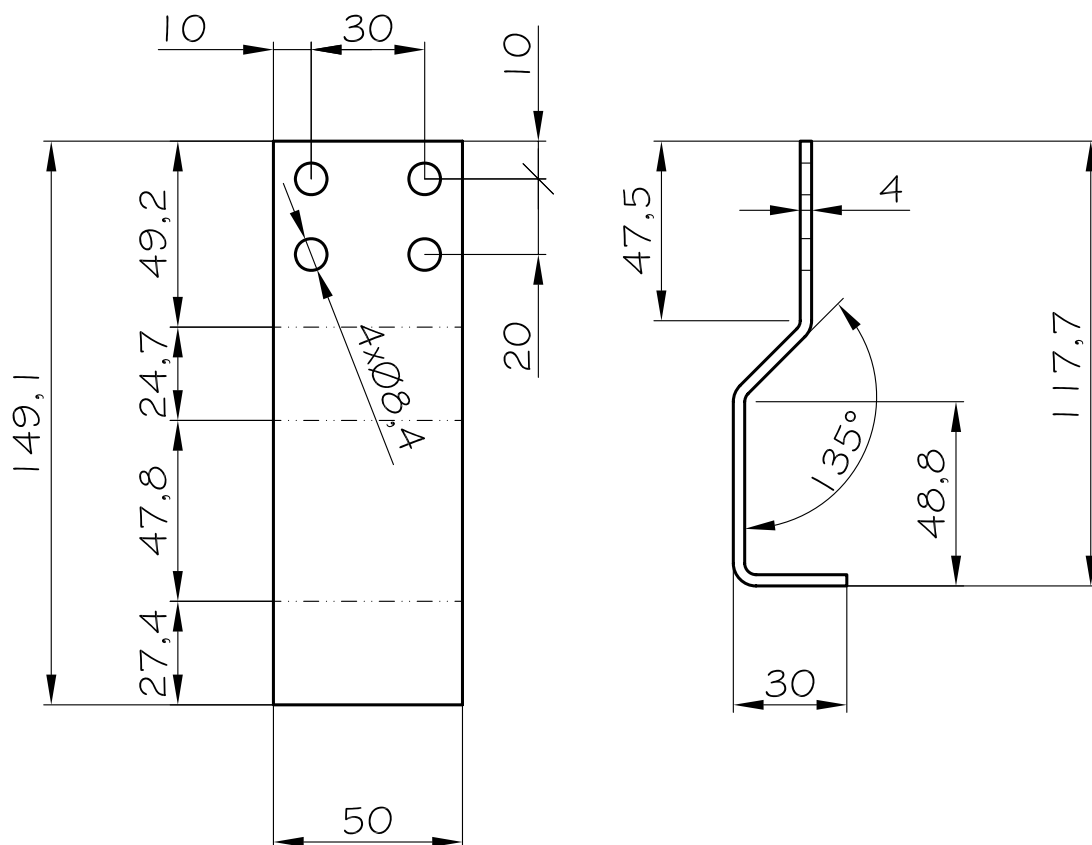
-	-	-	Square pipe	30x30	
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN		Scale : 1 : 1	
		Reg. Nr. : 111606742		Unit : millimeter	
		Date : 25 06 13		Material :	
		Checked by :		Sign. :	
		A4	Square pipe 30x30		
INDUSTRIAL ENGINEERING UAJY				Operation	Dwg. Nr. 07
Origin.		Rep.		Rep. by.	SN. NS.

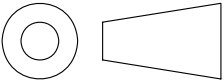


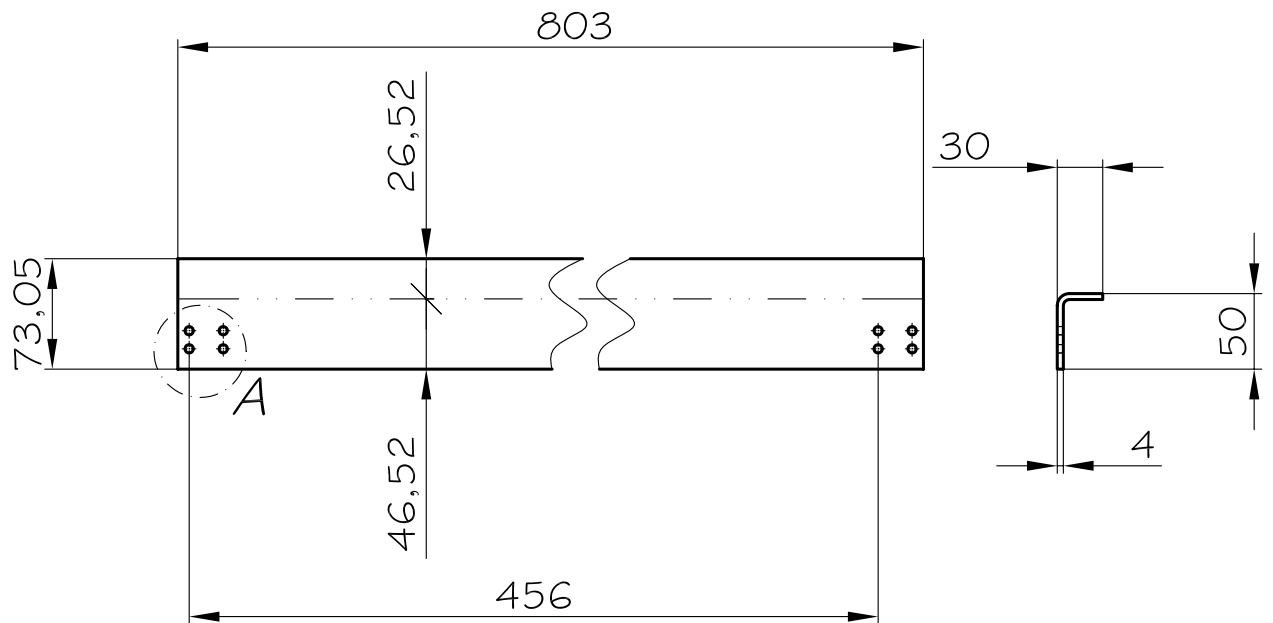
break all sharp edges



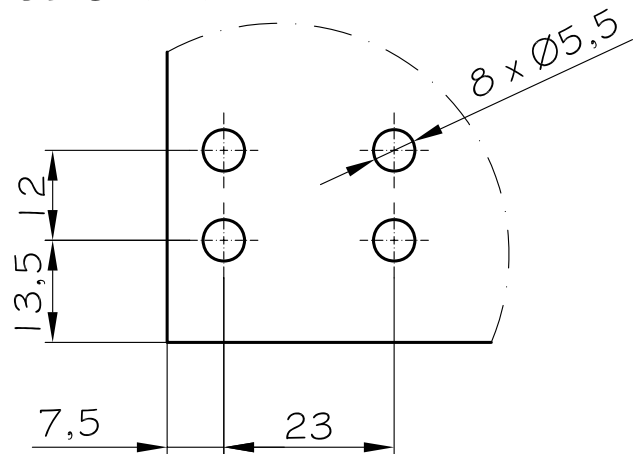
4	Flange	1.2	St. St.	-		
Pieces	Description	Item	Material	Dimension	Remarks	
Revision Index		Drawn by : Modestus SN		Scale : 1 : 1		
		Reg. Nr. : 111606742		Unit : millimeter		
		Date : 25 06 13		Material : St. St.		
		Checked by :		Sign. :		
		A4	Flange			
INDUSTRIAL ENGINEERING UAJY			Operation		Dwg. Nr. 08	
Origin.		Rep.		Rep. by.		SN. NS.

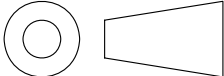


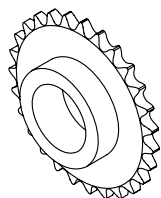
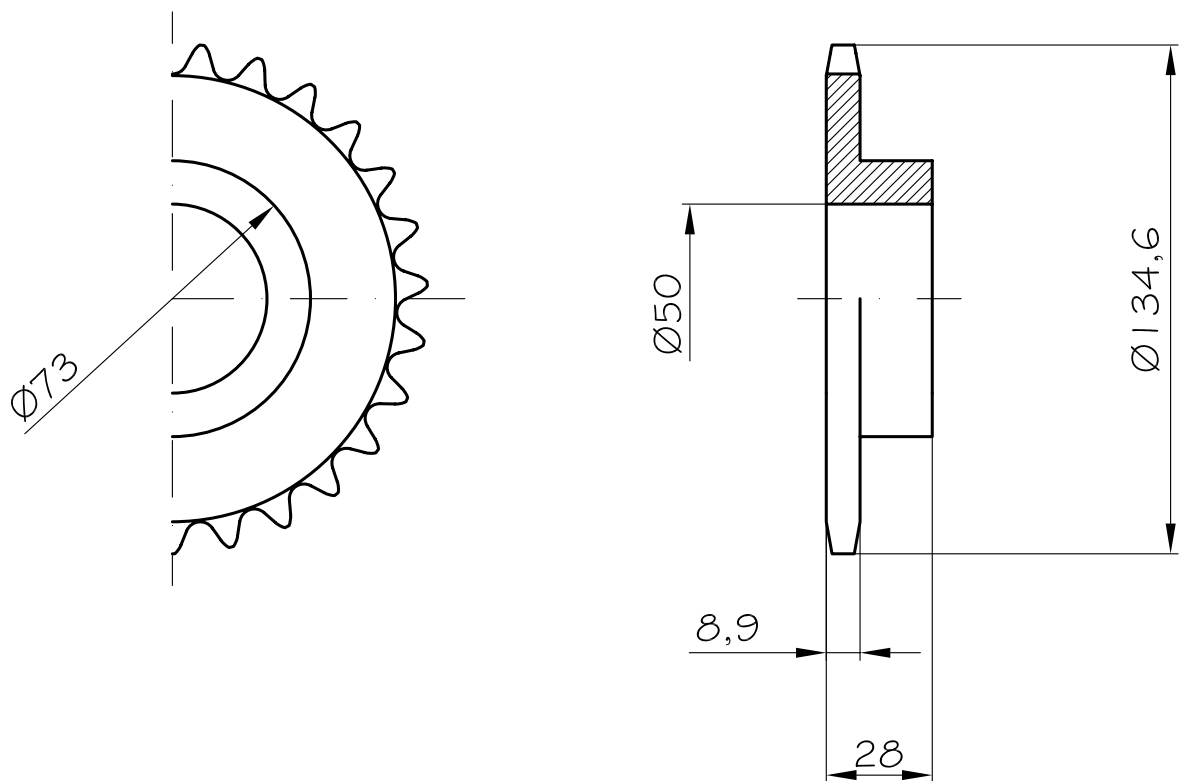
6	Foot Support	1.3	St. sheet	t = 4		
Pieces	Description	Item	Material	Dimension	Remarks	
Revision Index		Drawn by : Modestus SN		Scale : 1 : 1		
		Reg. Nr. : 111606742		Unit : millimeter		
		Date : 25 06 13		Material : St. St.		
		Checked by :		Sign. :		
		A4		Foot Support		
INDUSTRIAL ENGINEERING UAJY				Operation		Dwg. Nr. 09
Origin.		Rep.		Rep. by.		SN. NS.



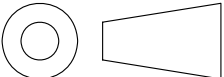
Detail A
Scale 1:1

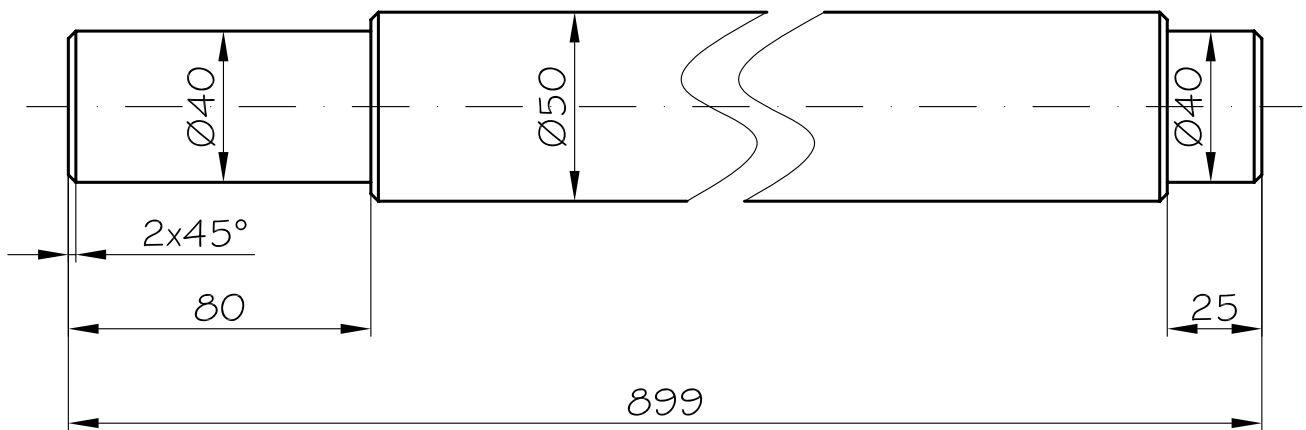


14	Guider	1.4	St. sheet	t = 4		
Pieces	Description	Item	Material	Dimension	Remarks	
Revision Index		Drawn by : Modestus SN		Scale : 1 : 5		
		Reg. Nr. : 111606742		Unit : millimeter		
		Date : 25 06 13		Material : St. St.		
		Checked by :		Sign. :		
		A4		Guider		
INDUSTRIAL ENGINEERING UAJY				Operation		Dwg. Nr. 10
Origin.		Rep.		Rep. by.		SN. NS.

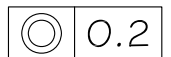


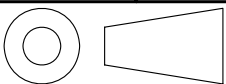
break all sharp edges

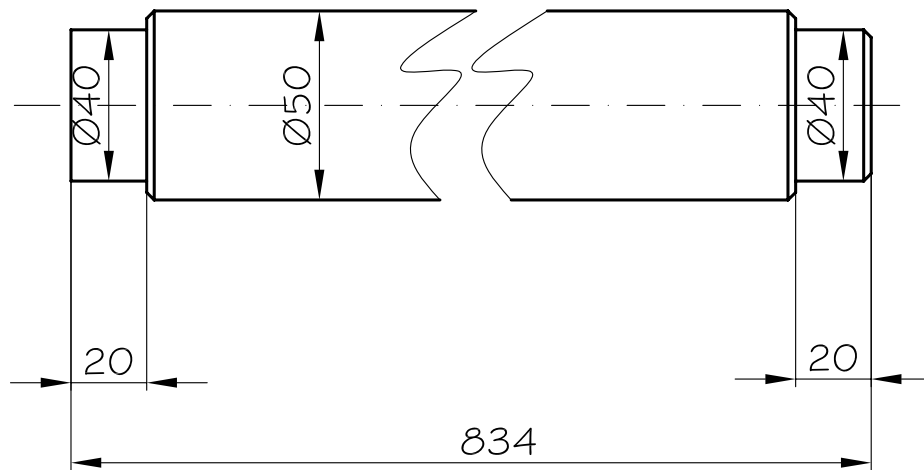
4	Sprocket RS50 z25		1.5				
Pieces	Description		Item	Material	Dimension	Remarks	
Revision Index			Drawn by : Modestus SN		Scale : 1 : 2		
			Reg. Nr. : 111606742		Unit : milimeter		
			Date : 25 06 13		Material : St. St.		
			Checked by :		Sign. :		
			A4		Sprocket RS50 z25		
INDUSTRIAL ENGINEERING UAJY					Operation		Dwg. Nr. 11
Origin.		Rep.		Rep. by.		SN. NS.	



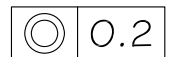
break all sharp edges




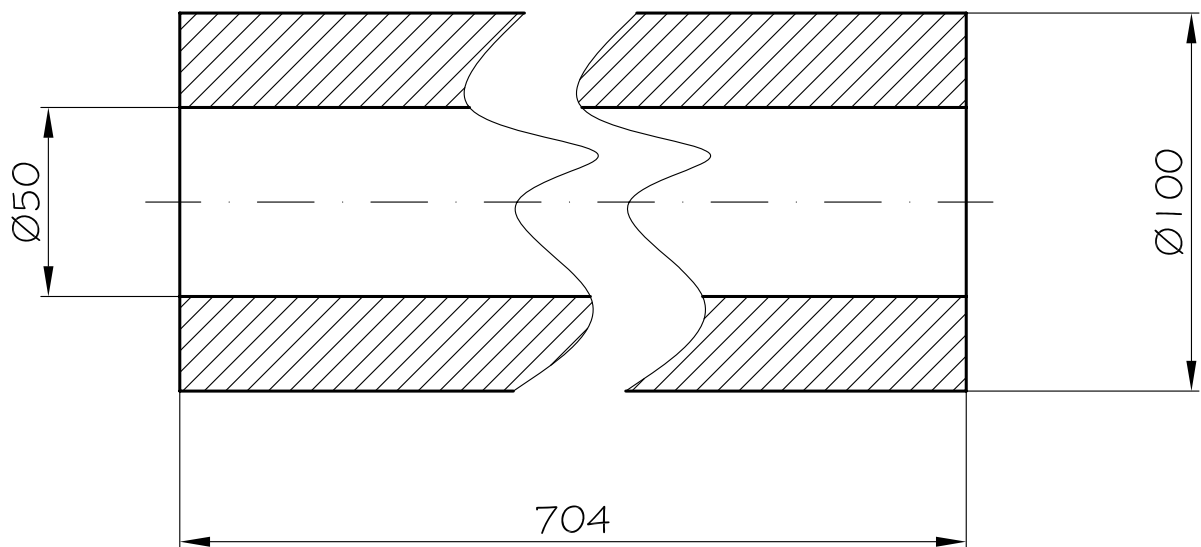
1	Transmission shaft	1.6				
Pieces	Description	Item	Material	Dimension	Remarks	
Revision Index		Drawn by : Modestus SN		Scale : 1 : 2		
		Reg. Nr. : 111606742		Unit : millimeter		
		Date : 25 06 13		Material : MS		
		Checked by :		Sign. :		
		A4	Transmission shaft			
INDUSTRIAL ENGINEERING UAJY				Operation		Dwg. Nr. 12
Origin.		Rep.		Rep. by.		SN. NS.



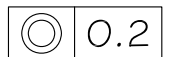
break all sharp edges

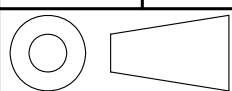


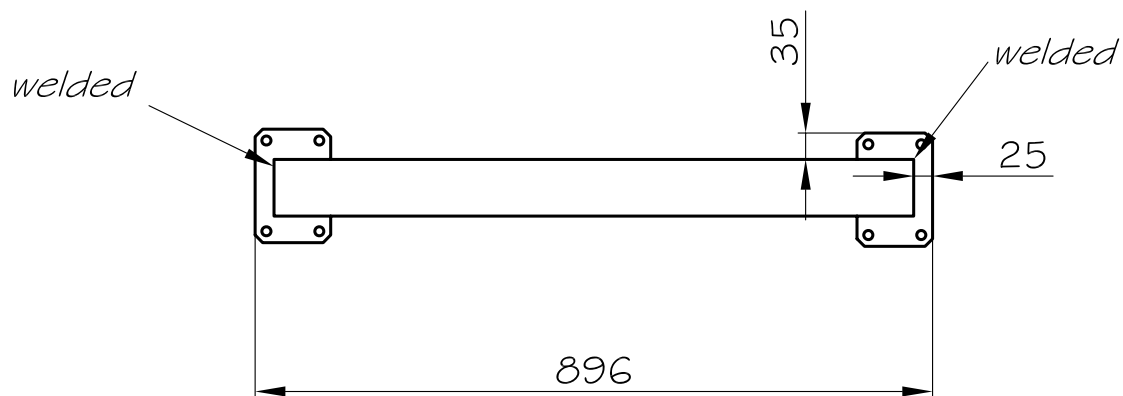
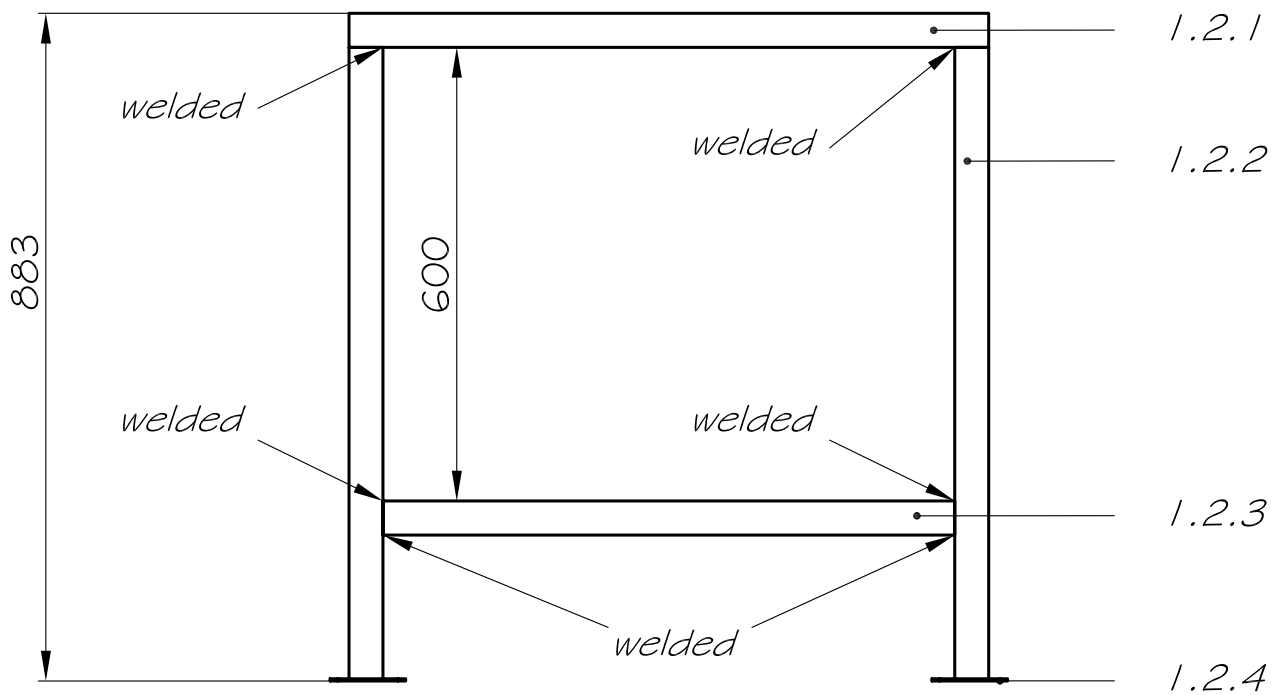
<i>I</i>	<i>Bottom Shaft</i>	<i>1.7</i>				
<i>Pieces</i>	<i>Description</i>	<i>Item</i>	<i>Material</i>	<i>Dimension</i>	<i>Remarks</i>	
<i>Revision Index</i>		<i>Drawn by : Modestus SN</i>		<i>Scale : 1 : 2</i>		
		<i>Reg. Nr. : 111606742</i>		<i>Unit : millimeter</i>		
		<i>Date : 25 06 13</i>		<i>Material : St. St.</i>		
		<i>Checked by :</i>		<i>Sign. :</i>		
		<i>A4</i>	<i>Bottom Shaft</i>			
<i>INDUSTRIAL ENGINEERING UAJY</i>				<i>Operation</i>		<i>Dwg. Nr.</i>
						<i>13</i>
<i>Origin.</i>		<i>Rep.</i>		<i>Rep. by.</i>		<i>SN. NS.</i>



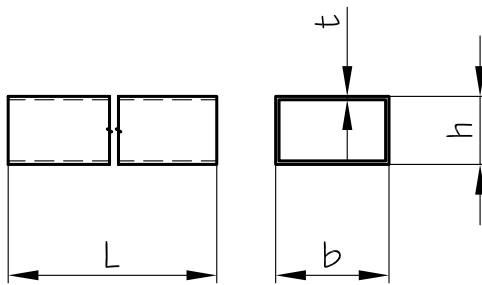
break all sharp edges



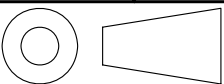
1	Roller	1.8			
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN		Scale : 1 : 2	
		Reg. Nr. : 111606742		Unit : millimeter	
		Date : 25 06 13		Material : St. St.	
		Checked by :		Sign. :	
		A4	Roller		
INDUSTRIAL ENGINEERING UAJY				Operation	
				Dwg. Nr. 14	
Origin.		Rep.		Rep. by.	
				SN. NS.	

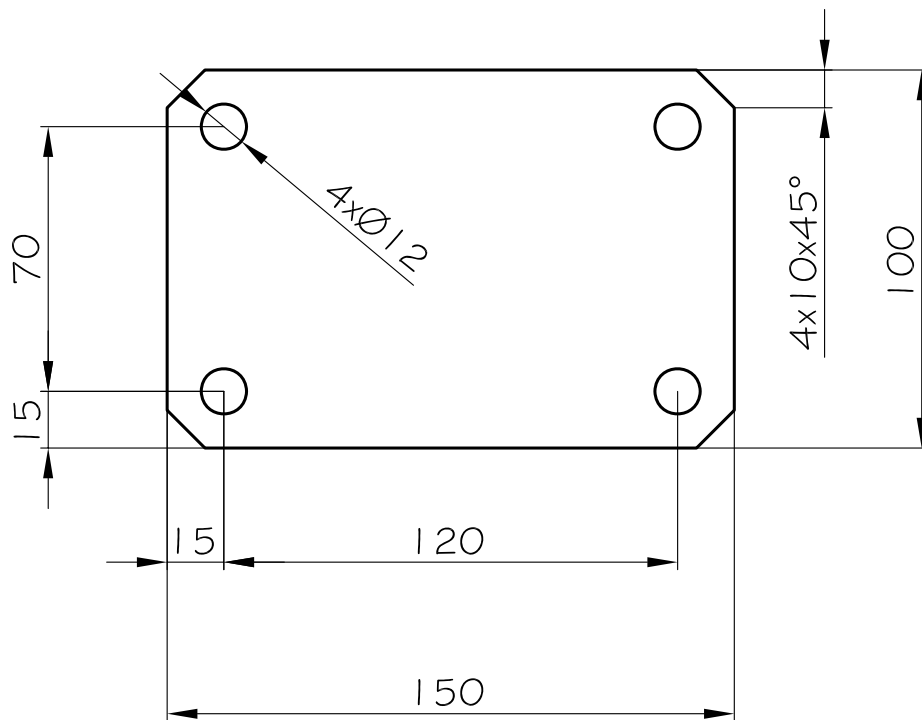


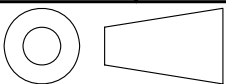
2	Foot Plate	1.2.4	St. St.		17
1	Leg	1.2.3	Rect. Tube	75x45	16
2	Leg	1.2.2	Rect. Tube	75x45	16
1	Leg	1.2.1	Rect. Tube	75x45	16
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN		Scale : 1 : 10	
		Reg. Nr. : 111606742		Unit : millimeter	
		Date : 25 06 13		Material :	
		Checked by :		Sign. :	
		A4		Bottom Frame	
INDUSTRIAL ENGINEERING UAJY		Operation		Dwg. Nr. 15	
Origin.		Rep.		Rep. by.	
				SN. NS.	

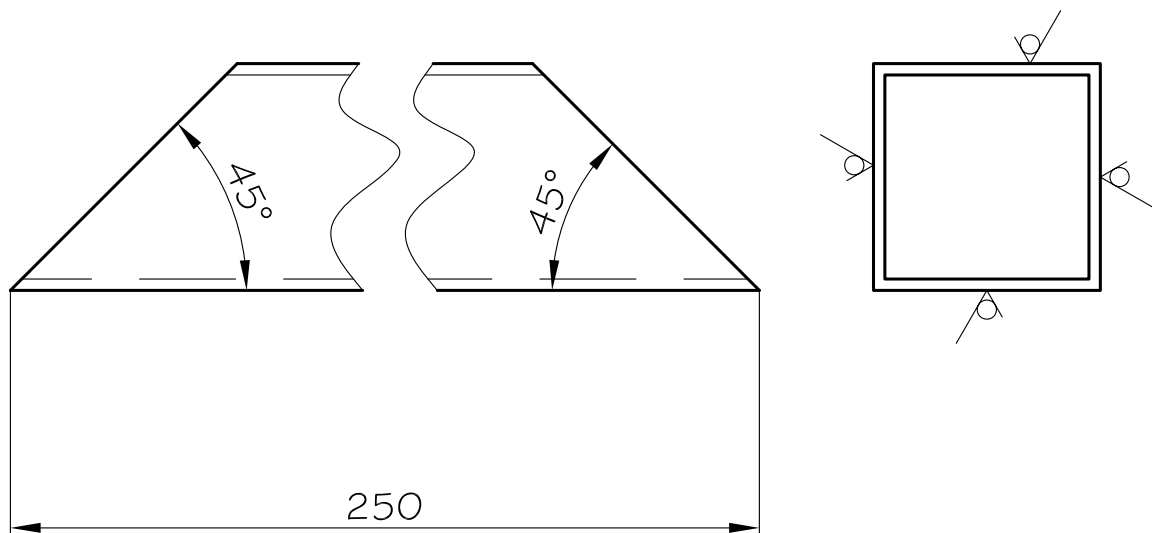


Qty	Item	Description	b	h	l	t	Assy
1	1.2.1	Leg	4"	2"	756	0.12"	3-015
2	1.2.2	Leg	4"	2"	835	0.12"	3-015
1	1.2.3	Leg	4"	2"	846	0.12"	3-015
2	1.3.1.1	Leg	4"	2"	1050	0.12"	3-019
2	1.3.1.2	Leg	4"	2"	401,3	0.12"	3-019
2	1.3.1.3	Leg	4"	2"	230	0.12"	3-019
1	1.3.1.4	Leg	4"	2"	1460	0.12"	3-019
2	1.3.1.5	Leg	4"	2"	240	0.12"	3-019
1	1.3.1.6	Leg	4"	2"	440	0.12"	3-019

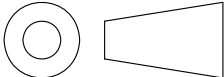
-	-	-	Rect. Tube	75 x 45	
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN			Scale : 1 : 2
		Reg. Nr. : 111606742			Unit : millimeter
		Date : 25 06 13			Material :
		Checked by :			Sign. :
		A4	Rect. Tube		
INDUSTRIAL ENGINEERING UAJY			Operation		Dwg. Nr. 16
Origin.		Rep.		Rep. by.	SN. NS.

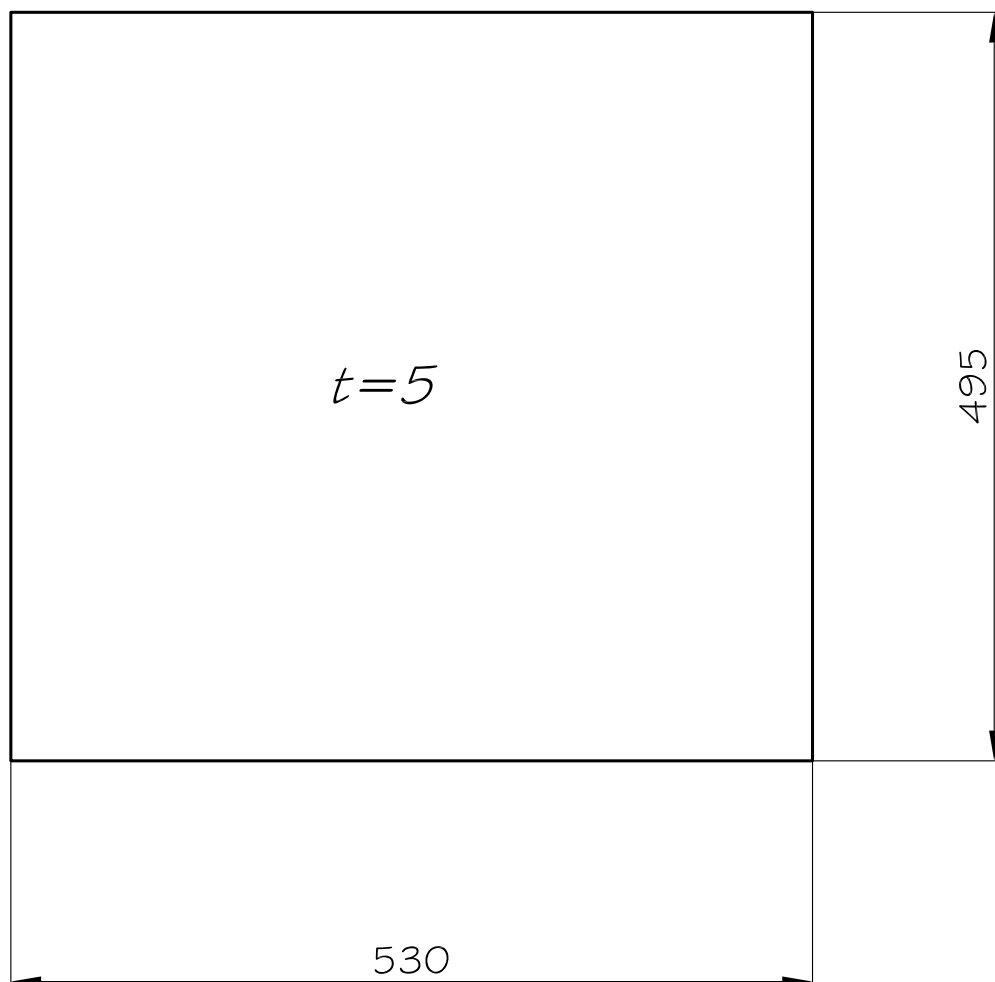



2	Foot Support	1.2.4	St. sheet	t = 4	
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN		Scale : 1 : 2	
		Reg. Nr. : 111606742		Unit : millimeter	
		Date : 25 06 13		Material : St. St.	
		Checked by :		Sign. :	
		A4	Foot Support		
INDUSTRIAL ENGINEERING UAJY			Operation		Dwg. Nr. 17
Origin.		Rep.		Rep. by.	SN. NS.

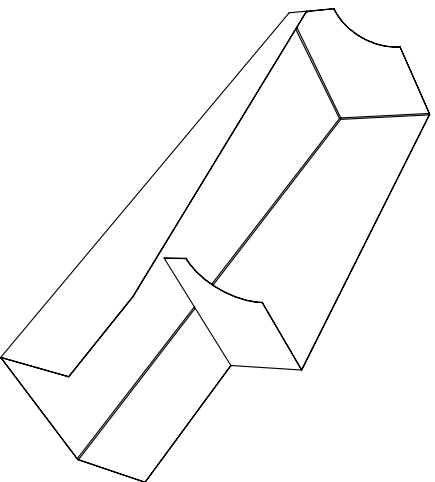
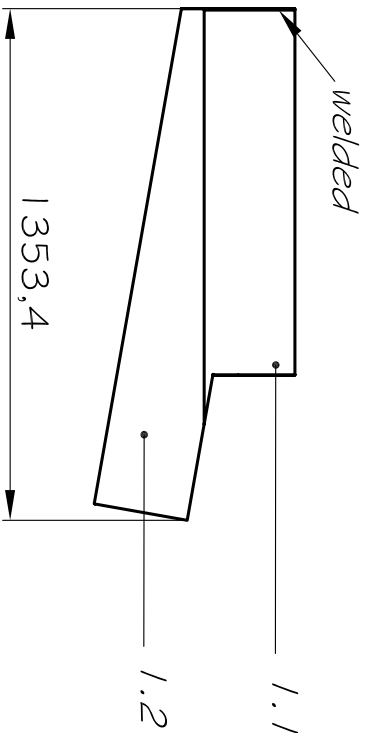
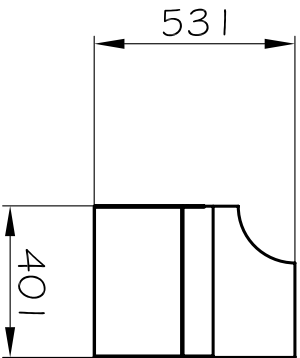


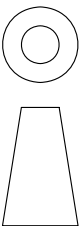
Qty	Item	Description	Assy
2	1.3.1.9	Support 2	3-19
1	1.3.2	Support 2	3-18
1	3.1.3	Reinforcement	3-29

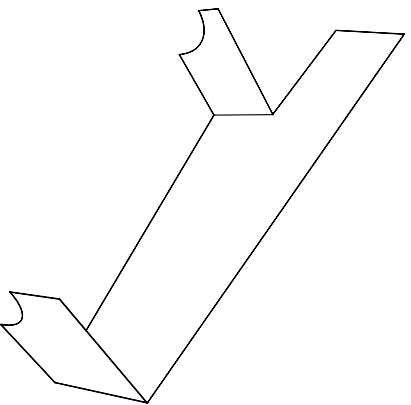
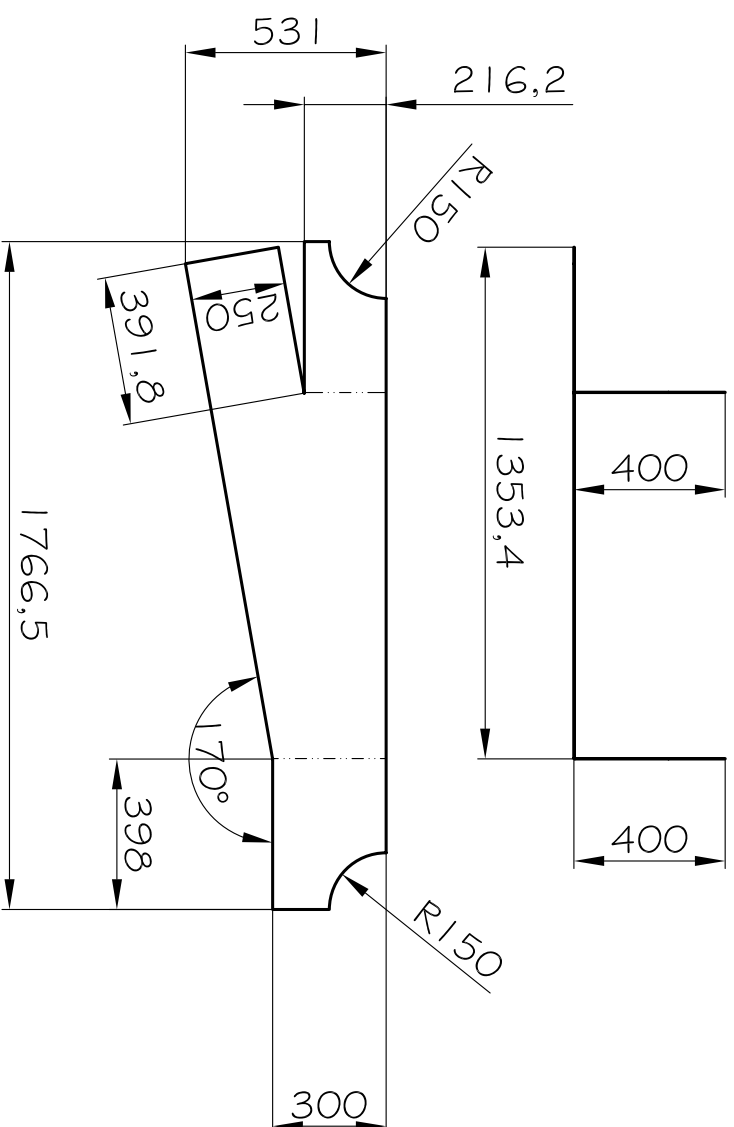
-	-	-	Square pipe	30x30		
Pieces	Description	Item	Material	Dimension	Remarks	
Revision Index		Drawn by : Modestus SN		Scale : 1 : 1		
		Reg. Nr. : 111606742		Unit : millimeter		
		Date : 25 06 13		Material :		
		Checked by :		Sign. :		
		A4	Square pipe			
INDUSTRIAL ENGINEERING UAJY				Operation		Dwg. Nr.
						20
Origin.		Rep.		Rep. by.		SN. NS.

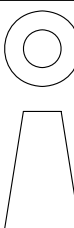


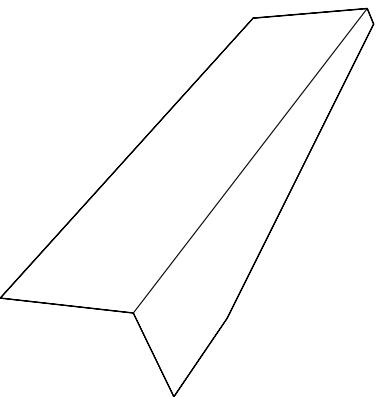
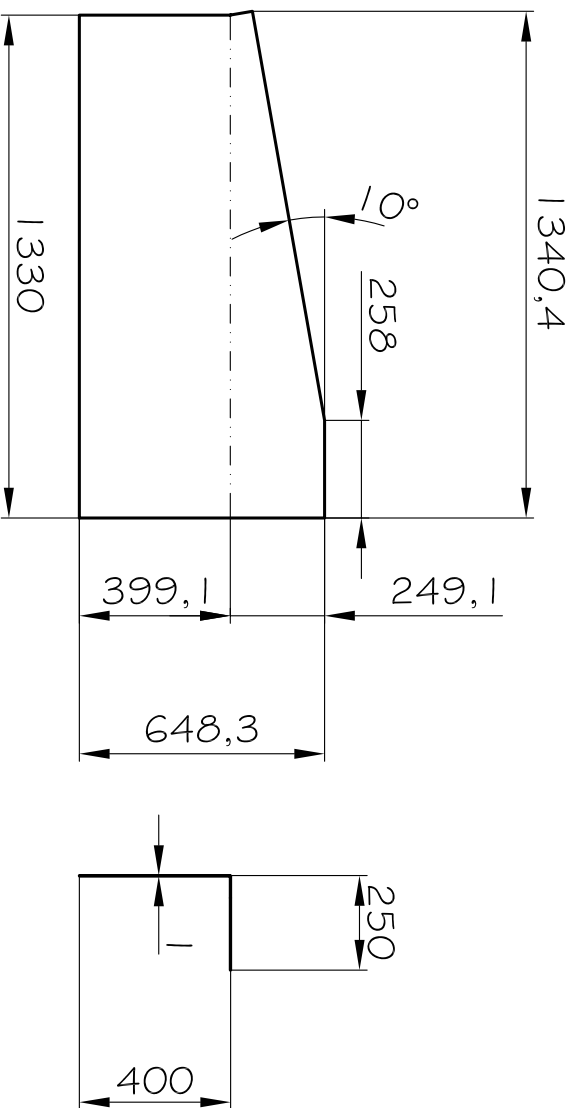
1	Base Plate	1.3.1.7	MS	t = 5	
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN		Scale : 1 : 5	
		Reg. Nr. : 111606742		Unit : millimeter	
		Date : 25 06 13		Material : MS	
		Checked by :		Sign. :	
		A4	Base Plate		
INDUSTRIAL ENGINEERING UAJY			Operation		Dwg. Nr. 21
Origin.		Rep.		Rep. by.	SN. NS.

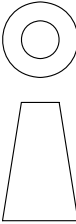


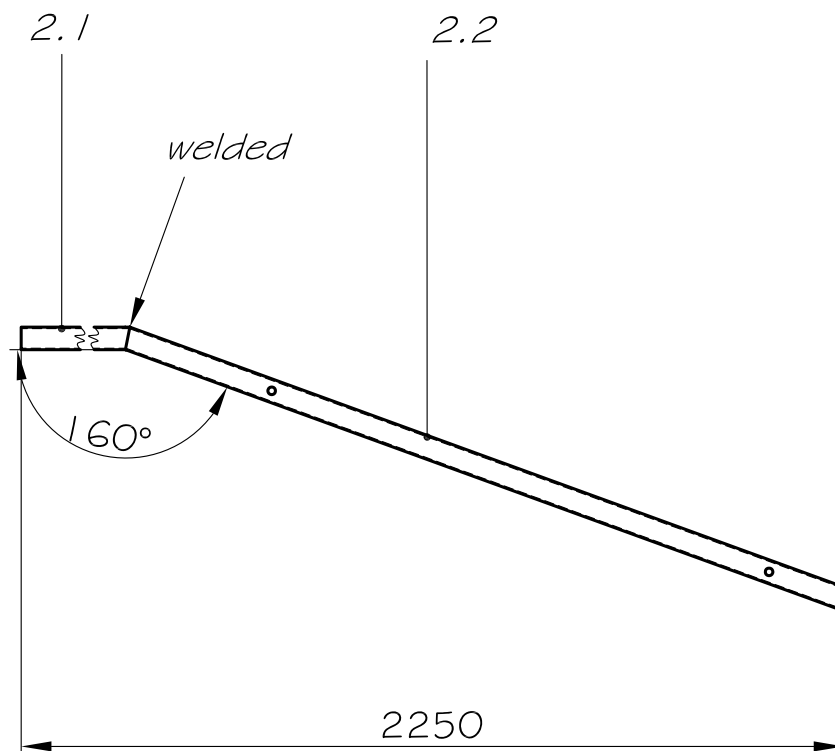
1	Receiver Plate 2	1.3.4.2	St. Sheet	t = 2	24
1	Receiver Plate 1	1.3.4.1	St. Sheet	t = 2	23
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN		Scale	: 1 : 20
		Reg. Nr. : 111606742		Unit	: millimeter
		Date : 25 06 13		Material	:
		Checked by :		Sign.	:
INDUSTRIAL ENGINEERING UAJY		A4		Receiver	
				Operation	
				Dwg. Nr.	
Origin.	Rep.	Rep. by.		SN. NS.	
				22	

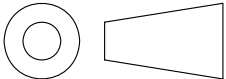


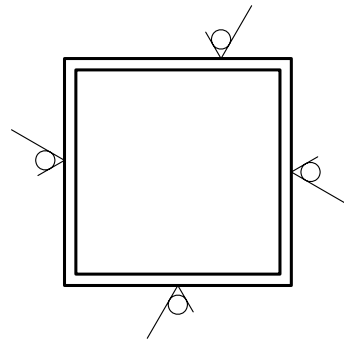
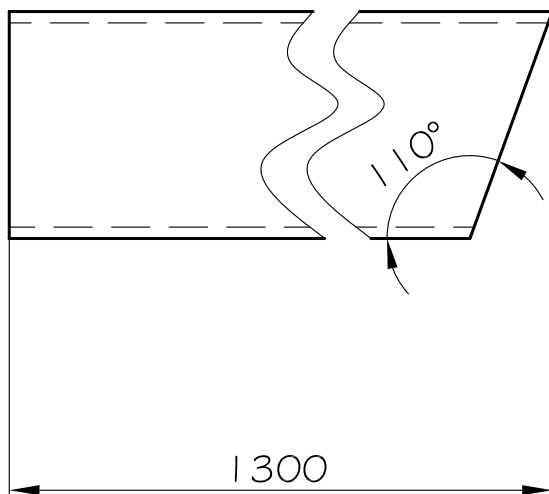
1	Receiver Plate 1	1.3.4.1	St. Sheet	t = 2	
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN		Scale	: 1 : 20
		Reg. Nr. : 111606742		Unit	: millimeter
		Date : 25 06 13		Material	: St. St.
		Checked by :		Sign.	:
		A4		Receiver Plate 1	
INDUSTRIAL ENGINEERING UAU		Operation			Dwg. Nr.
					23
Origin.	Rep.	Rep. by.			SN. NS.




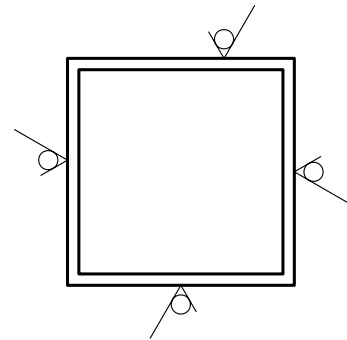
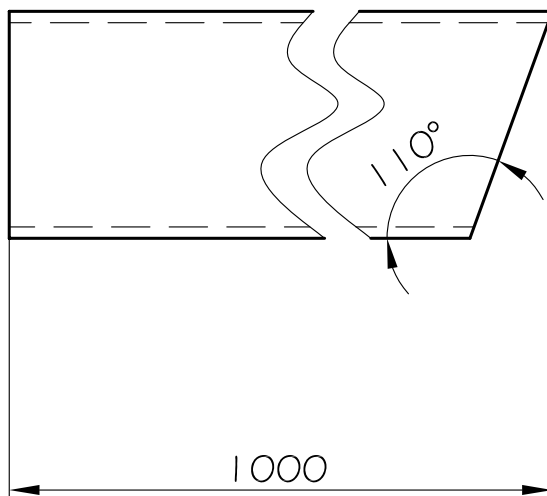
1	Receiver Plate 2		1.3.4.2	St. Sheet	t = 2	
Pieces	Description	Item	Material	Dimension	Remarks	
Revision Index		Drawn by : Modestus SN			Scale	: 1 : 20
		Reg. Nr. : 111606742			Unit	: millimeter
		Date : 25 06 13			Material	: St. St.
		Checked by :			Sign.	:
INDUSTRIAL ENGINEERING UAJY		A4	Receiver Plate 2			
		Operation			Dwg. Nr.	
						24
Origin.	Rep.	Rep. by.			SN.	NS.




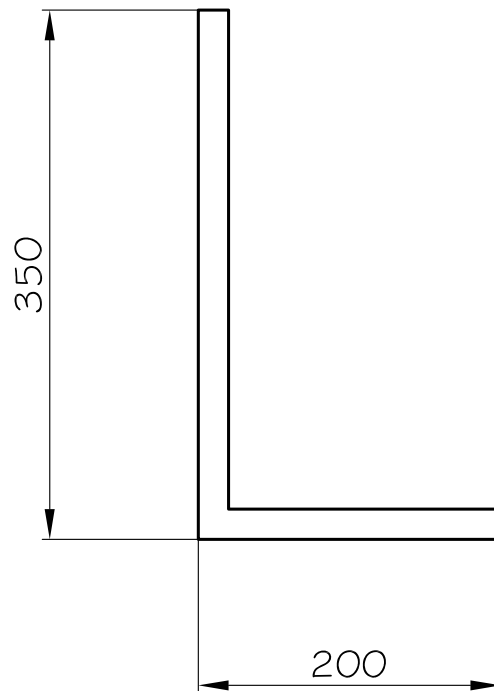
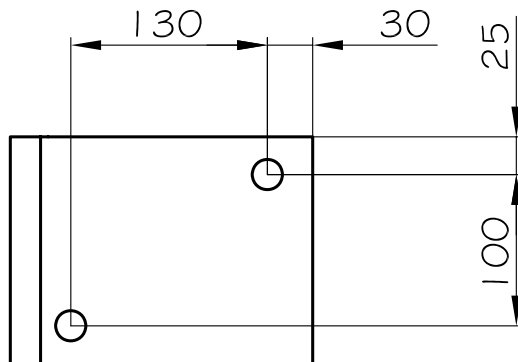
1	Square pipe	2.2	Square pipe	30x30		
1	Square pipe	2.1	Square pipe	30x30		
Pieces	Description	Item	Material	Dimension	Remarks	
Revision Index		Drawn by : Modestus SN			Scale : 1 : 10	
		Reg. Nr. : 111606742			Unit : millimeter	
		Date : 25 06 13			Material :	
		Checked by :			Sign. :	
		A4	Fixed Arm for Guider			
INDUSTRIAL ENGINEERING UAJY				Operation		Dwg. Nr. 25
Origin.		Rep.		Rep. by.		SN. NS.

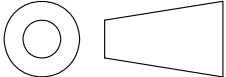


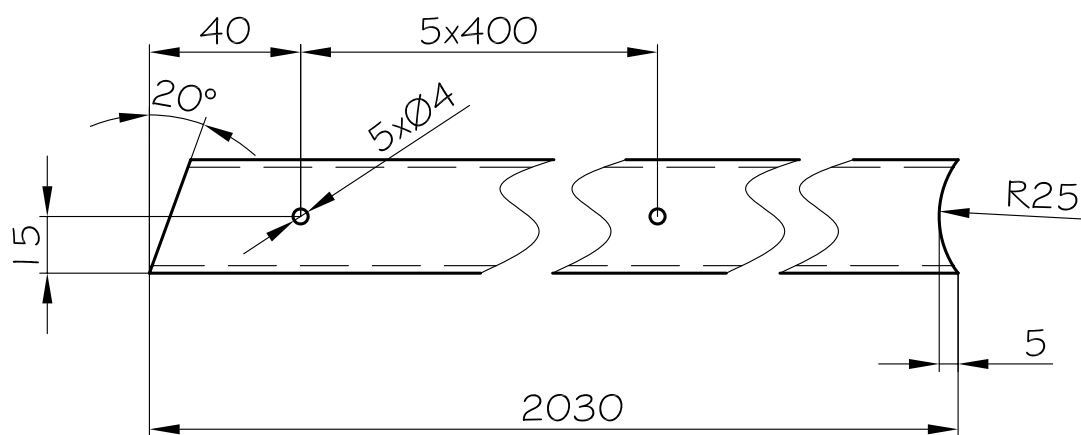
1	Square pipe	2.1	Square pipe	30x30	
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN		Scale : 1 : 1	
		Reg. Nr. : 111606742		Unit : millimeter	
		Date : 25 06 13		Material :	
		Checked by :		Sign. :	
		A4	Square pipe		
INDUSTRIAL ENGINEERING UAJY				Operation	
				Dwg. Nr.	
				26	
Origin.		Rep.		Rep. by.	
				SN. NS.	

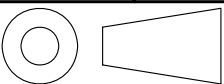


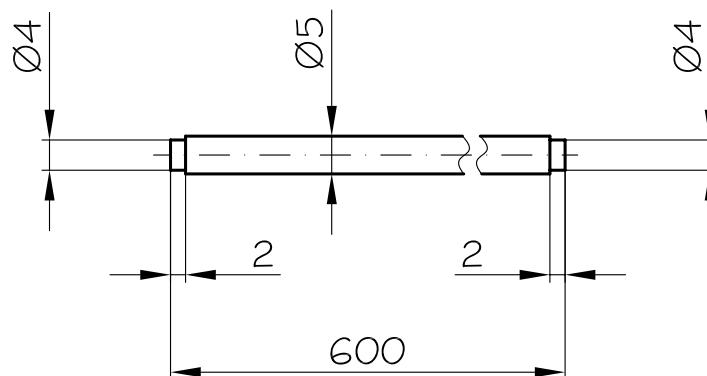
1	Square pipe	2.2	Square pipe	30x30		
Pieces	Description	Item	Material	Dimension	Remarks	
Revision Index		Drawn by : Modestus SN		Scale : 1 : 1		
		Reg. Nr. : 111606742		Unit : millimeter		
		Date : 25 06 13		Material :		
		Checked by :		Sign. :		
		A4		Square pipe		
INDUSTRIAL ENGINEERING UAJY				Operation		Dwg. Nr. 27
Origin.		Rep.		Rep. by.		SN. NS.

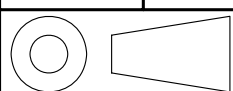


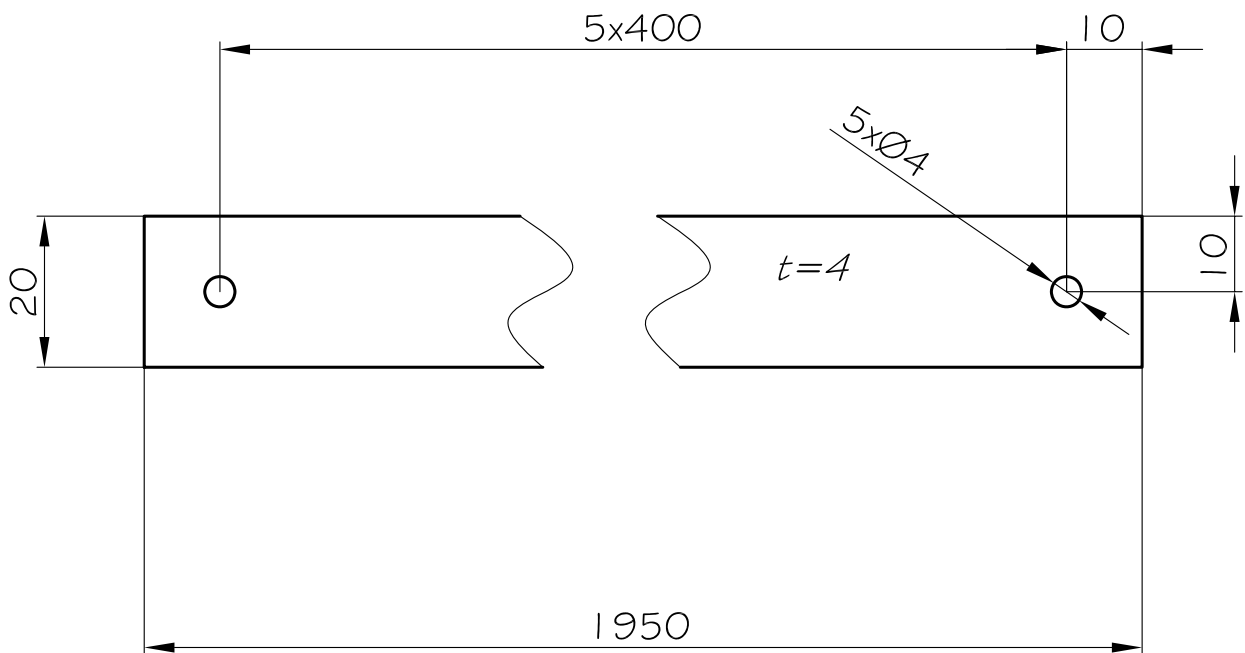
1	L profile	3.1.1				
Pieces	Description	Item	Material	Dimension	Remarks	
Revision Index		Drawn by : Modestus SN		Scale : 1 : 5		
		Reg. Nr. : 111606742		Unit : millimeter		
		Date : 25 06 13		Material : L profile		
		Checked by :		Sign. :		
		A4	L profile			
INDUSTRIAL ENGINEERING UAJY				Operation		Dwg. Nr. 30
Origin.		Rep.		Rep. by.		SN. NS.

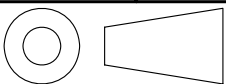


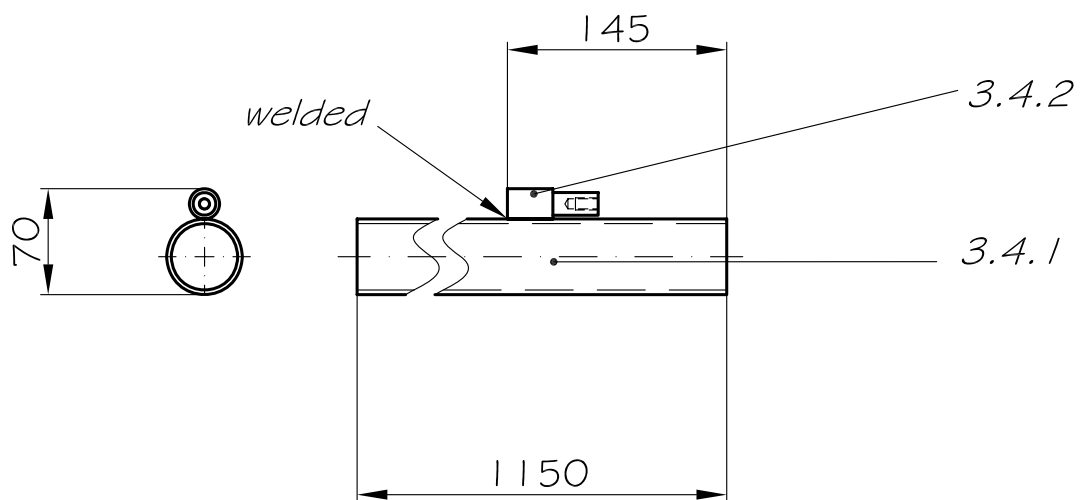
1	Holder	3.1.2	Square pipe	30x30	
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN		Scale : 1 : 2	
		Reg. Nr. : 111606742		Unit : millimeter	
		Date : 25 06 13		Material :	
		Checked by :		Sign. :	
		A4	Holder		
INDUSTRIAL ENGINEERING UAJY				Operation	Dwg. Nr. 31
Origin.		Rep.		Rep. by.	SN. NS.

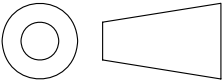


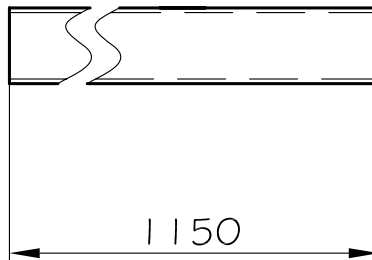
4	Shaft Ram	5	St. St.	Ø5	
5	Shaft Ram	3.2	St. St.	Ø5	
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN			Scale : 1 : 1
		Reg. Nr. : 111606742			Unit : millimeter
		Date : 25 06 13			Material : St. St.
		Checked by :			Sign. :
		A4	Shaft Ram		
INDUSTRIAL ENGINEERING UAJY				Operation	Dwg. Nr. 32
Origin.		Rep.		Rep. by.	SN. NS.




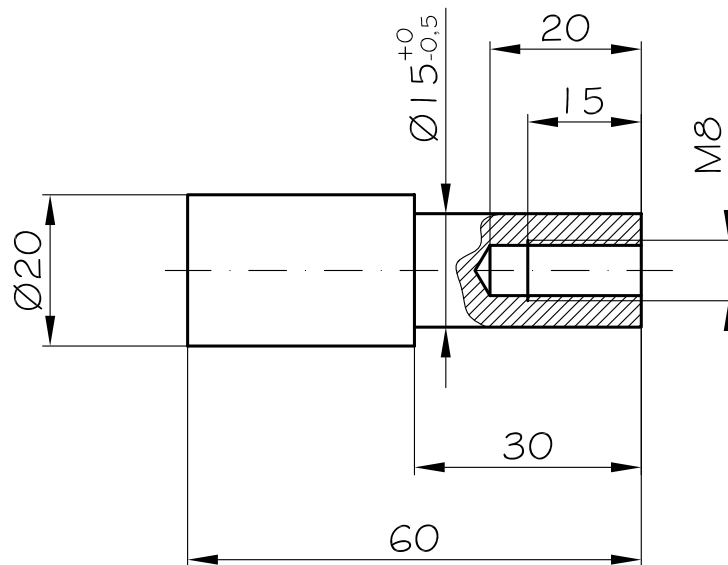
1	Ram Support	3.3	St. sheet	t = 4		
Pieces	Description	Item	Material	Dimension	Remarks	
Revision Index		Drawn by : Modestus SN		Scale : 1 : 1		
		Reg. Nr. : 111606742		Unit : millimeter		
		Date : 25 06 13		Material : St. St.		
		Checked by :		Sign. :		
		A4		Ram Support		
INDUSTRIAL ENGINEERING UAJY				Operation		Dwg. Nr. 33
Origin.		Rep.		Rep. by.		SN. NS.

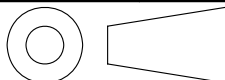


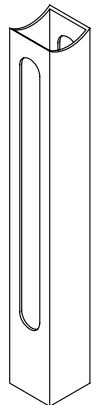
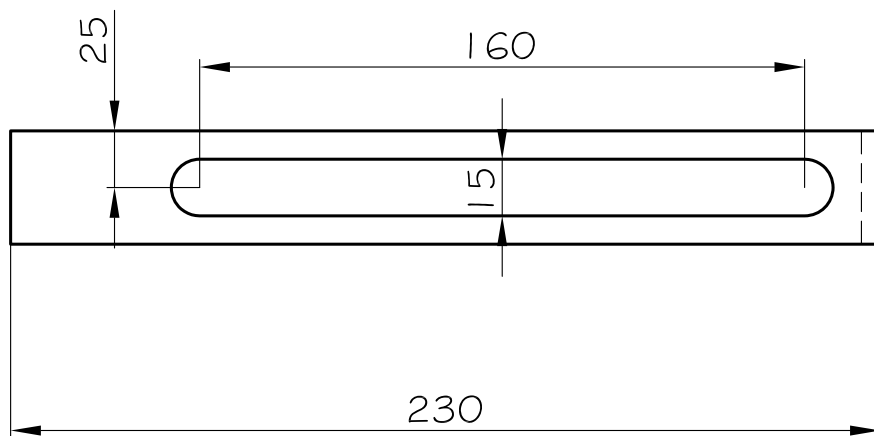
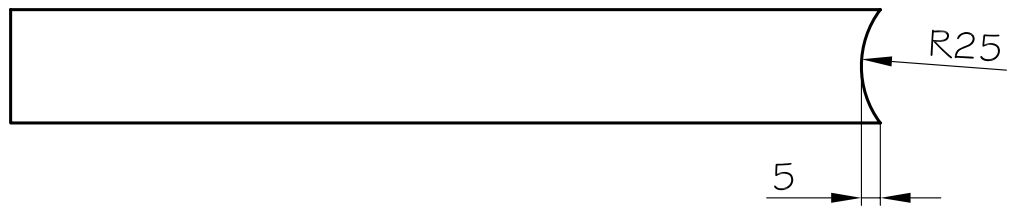
1	Engsel	3.4.2	St. St.		36
1	Pipe	3.4.1	St. St.	Ø1,5"	35
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN			Scale : 1 : 5
		Reg. Nr. : 111606742			Unit : millimeter
		Date : 25 06 13			Material :
		Checked by :			Sign. :
		A4	Holder Pipe		
INDUSTRIAL ENGINEERING UAJY			Operation		Dwg. Nr. 34
Origin.		Rep.		Rep. by.	SN. NS.

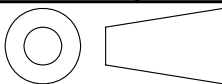


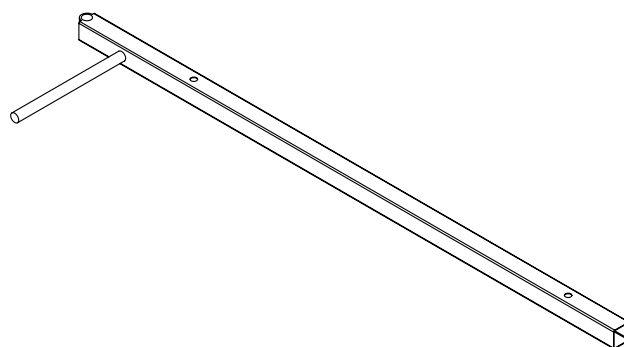
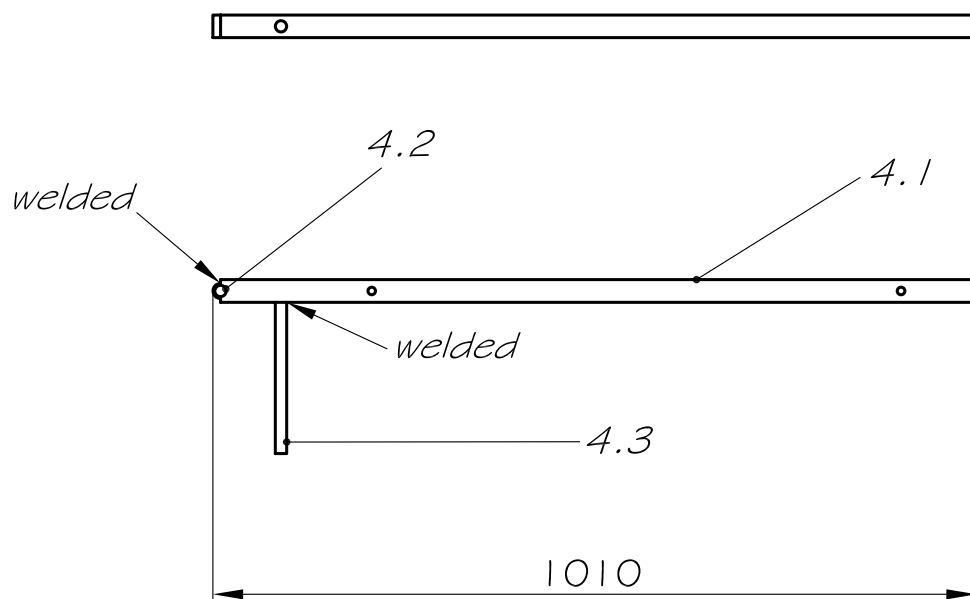
1	Pipe	3.4.1	St. St.	Ø1,5"		
Pieces	Description	Item	Material	Dimension	Remarks	
Revision Index		Drawn by : Modestus SN		Scale : 1 : 5		
		Reg. Nr. : 111606742		Unit : millimeter		
		Date : 25 06 13		Material :		
		Checked by :		Sign. :		
		A4		Pipe		
INDUSTRIAL ENGINEERING UAJY				Operation		Dwg. Nr. 35
Origin.		Rep.		Rep. by.		SN. NS.





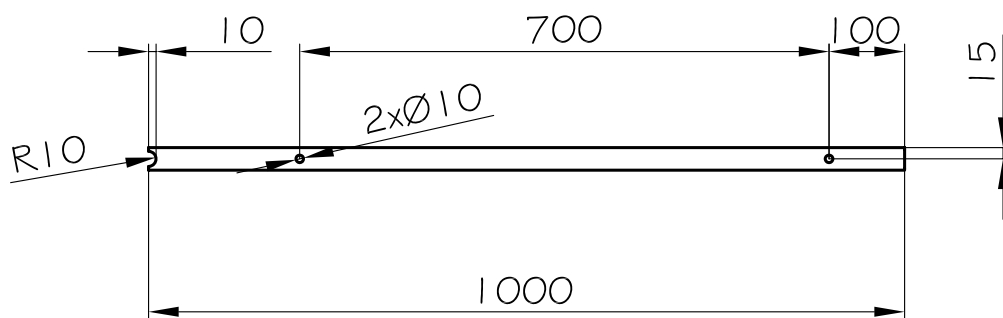
1	Engsel	3.4.2	St. St.		
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN		Scale : 1 : 1	
		Reg. Nr. : 111606742		Unit : millimeter	
		Date : 25 06 13		Material : St. St.	
		Checked by :		Sign. :	
		A4	Engsel		
INDUSTRIAL ENGINEERING UAJY			Operation		Dwg. Nr. 36
Origin.		Rep.		Rep. by.	SN. NS.

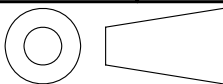


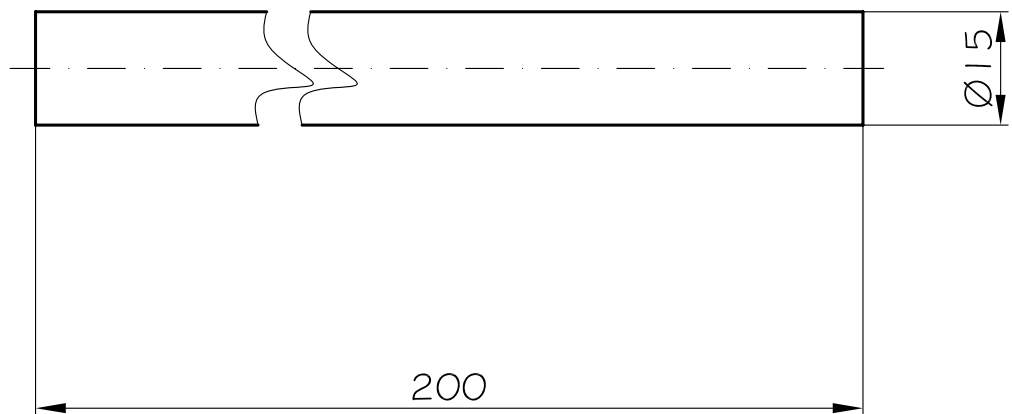
1	Square Tube	3.5	Square pipe	30x30		
Pieces	Description	Item	Material	Dimension	Remarks	
Revision Index		Drawn by : Modestus SN		Scale : 1 : 1		
		Reg. Nr. : 111606742		Unit : millimeter		
		Date : 25 06 13		Material :		
		Checked by :		Sign. :		
		A4		Square Tube		
INDUSTRIAL ENGINEERING UAJY				Operation		Dwg. Nr. 37
Origin.		Rep.		Rep. by.		SN. NS.




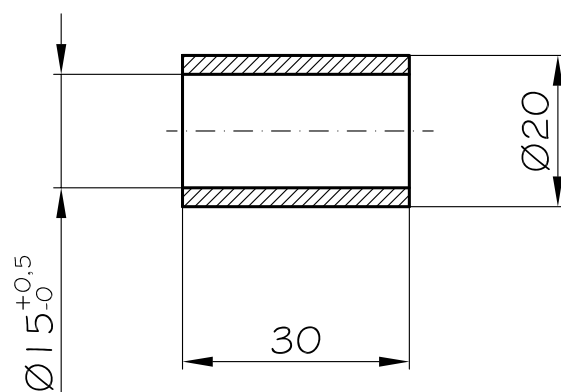
1	Bush	4.3	St. St.		41
1	Shaft for Spring	4.2	St. St.		40
1	Door Holder	4.1	Square pipe	30x30	39
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN			Scale : 1 : 10
		Reg. Nr. : 111606742			Unit : millimeter
		Date : 25 06 13			Material :
		Checked by :			Sign. :
		A4	Divider Door		
INDUSTRIAL ENGINEERING UAJY		 	Operation		Dwg. Nr. 38
Origin.		Rep.		Rep. by.	SN. NS.




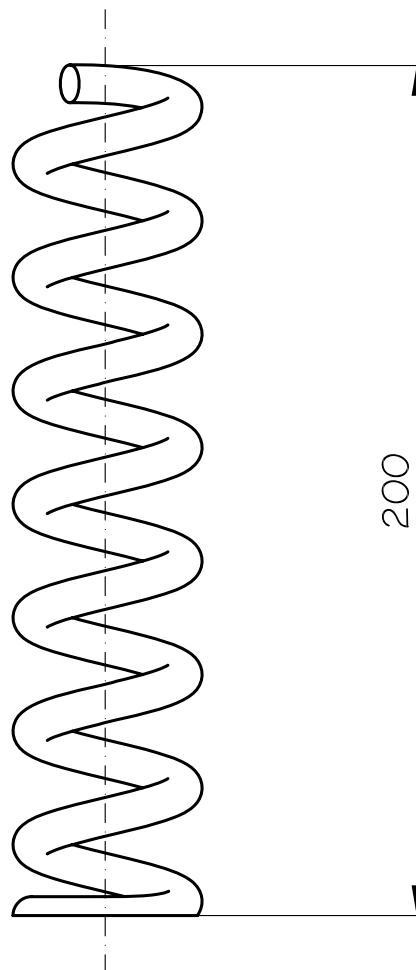
I	Door Holder	4.1	Square pipe	30x30		
Pieces	Description	Item	Material	Dimension	Remarks	
Revision Index		Drawn by : Modestus SN		Scale : 1 : 10		
		Reg. Nr. : 111606742		Unit : millimeter		
		Date : 25 06 13		Material : sq.tube 30		
		Checked by :		Sign. :		
		A4		Door Holder		
INDUSTRIAL ENGINEERING UAJY				Operation		Dwg. Nr.
						39
Origin.		Rep.		Rep. by.		SN. NS.




1	Shaft for Spring	4.2	St. St.		
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN		Scale : 1 : 1	
		Reg. Nr. : 111606742		Unit : millimeter	
		Date : 25 06 13		Material : St. St.	
		Checked by :		Sign. :	
		A4	Shaft for Spring		
INDUSTRIAL ENGINEERING UAJY				Operation	
				Dwg. Nr.	
				40	
Origin.		Rep.		Rep. by.	
				SN. NS.	



1	Bush	4.3	St. St.		
Pieces	Description	Item	Material	Dimension	Remarks
Revision Index		Drawn by : Modestus SN		Scale : 1 : 1	
		Reg. Nr. : 111606742		Unit : millimeter	
		Date : 25 06 13		Material : St. St.	
		Checked by :		Sign. :	
		A4	Bush		
INDUSTRIAL ENGINEERING UAJY			Operation		Dwg. Nr. 41
Origin.		Rep.		Rep. by.	SN. NS.



1	Spring		7	LCM200KK 05		Purchased		
Pieces	Description		Item	Material		Dimension		Remarks
Revision Index			Drawn by : Modestus SN				Scale : 1 : 1	
			Reg. Nr. : 111606742				Unit : milimeter	
			Date : 25 06 13				Material : St. St.	
			Checked by :				Sign. :	
			A4		Spring			
INDUSTRIAL ENGINEERING UAJY					Operation		Dwg. Nr. 42	
Origin.		Rep.		Rep. by.			SN. NS.	

Lampiran 3
Katalog *Standart Part*

